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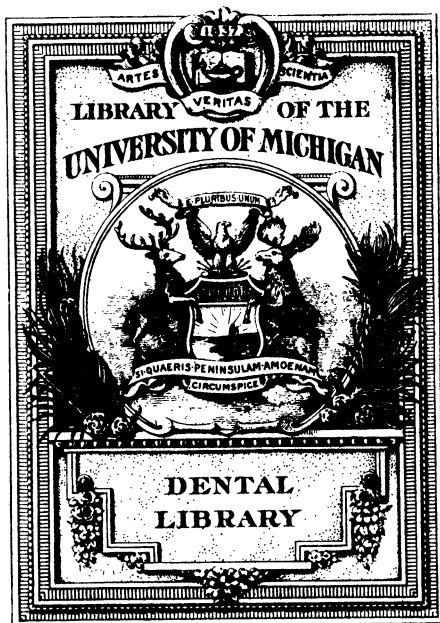
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# *The* AMERICAN DENTAL JOURNAL

Edited By  
BERNARD J. CIGRAND, M. S., D. D. S.

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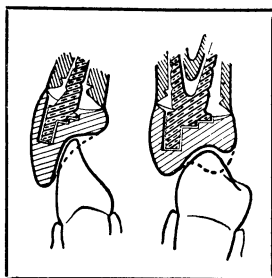
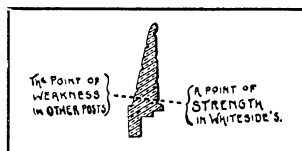
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# *The* AMERICAN DENTAL JOURNAL

DR. BERNARD J. CIGRAND, Editor

Published on the fourth of every month by The  
Ross Dental Manufacturing Company.

## *Editorials and Comments*

"The editor assumed charge of this journal with the signed understanding that he shall have absolute and unlimited control and supervision of the editorial and literary elements; this unusual grant makes it possible to render the profession an independent peri-

odical; the title page clearly indicates the scope under the new policy of this old established journal."—*Publishers.*

## AT LAST THE DENTIST HAS BEEN MADE A GOVERNMENT OFFICIAL.

After years of earnest effort the dentists have convinced congress and won the president to establish in the staff of army officers a dental surgeon, with some government dignity. This is at least gratifying to the various state and national committees as well as the various editors who for one score of years have "hammered away at that proposition."

It is needless to relate the necessity for dental attention and it certainly is clear to the practitioners of dentistry that this recent law adds considerably to the position dentists occupy in the construction of community equation. Every time our profession is raised locally or nationally the good reflects to every person in the profession.

The dental organization in the District of Columbia deserves considerable credit for having with vigilance watched the progress of the bills as they advanced in the senate and the house, and by the earnest attention of these dentists at the national capital the bills finally evolved into a fairly satisfactory law.

It is indeed lamentable how little, yes how very little, the average dental practitioner contributes to the onward progress of his

profession. For months the various bodies who were concerned in the passage of this dental bill have requested the dentists to write letters to the representatives and senators urging them to vote for the bills. These requests were brought to the attention of every dentist in the United States, either by a personal letter or through the published notices in the fifty American dental journals, thus fully and emphatically informing all the practitioners of the land:—"If you wish your profession honored by placing dentists on the staff of the army write to your representative or senator urging them to vote for the bill."

It is astonishing, surprising and deplorable how few dentists actually took five minutes of their time and spent two cents for postage to assist in this great work of proper dental recognition. And at dental gatherings and in hotel corridors you hear dentists complaining because they are not given the opportunity to do something or that a few of the local, state or national organizations control things and do the work. Well there is a big percentage of practitioners that must learn the truth of the logic that the man who is in love with his work makes opportunities and does not grow old "looking for opportunities." If some one else is accomplishing results it is because of labor, thought and effort, and hence merits our appreciation.

In the future when you are interested in a dental project and you are expected to do your part, political or professional, just do your duty—do it so well, so promptly and so easily as to attract the attention of the so-called "few who run things," and before long you will likely get an invitation to join the "few who run things" on the ground that "you do things."

THE AMERICAN DENTAL JOURNAL congratulates the several committees for their loyal service and heartily thanks the few dentists who did write and urge the passage of the bill.

When the profession wakes up to the cold and almost unbearable fact that if they want laws, either state or national, they must be prepared to come forth with a solid front and with arguments founded on reason—demand what is by right their privilege. If you dream that the legislature and congressmen will come and wrap on the doors of the state dental societies and humbly ask, "Well! What can we do for the dentists and their profession and raise its service





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to poor depressed, downtrodden and abused humanity?" If you harbor such a scene in the garret of your nervous system you are entertaining a vision which is purely imaginary and never, never, never will be realized.

On the other hand, if we as dentists desire by law to promote our standing, and that always must mean the betterment of our service to our patients, we can only accomplish it by an harmonious and perfectly organized profession. By this means we could attain in five years what otherwise would require twenty. Get in the spirit of lending your personal, professional and political strength to a good cause. Do not sit idly by and say "Well, the few who run things will do it their way anyhow." That does not sound well, and it certainly does not look good in print, but we have all heard these cynical words, but they usually come from the vacant brain, the fault finder, the complainer and the cynic. Do not get that habit, it robs you of the sunshine of your own life. People will avoid you and the chilly atmosphere of your personality will some day, some how, make you into an icyele, the very emblem of the over-exact critic, who seldom does things, and, as Joseph Billings said. "No one would ever know he lived had it not been that he found fault, the only thing he ever did, and God be praised, he took that quality with him when he died."

As a complement to the needs of an army dental surgeon, the editor is presenting the readers a famous painting produced by H. Modersohn, and all readers will appreciate this wordless painting. In other words "Enough said." Such a picture would have been a convincing argument before the congressional committees, since its truth "strikes home." From the pen of the distinguished and venerable New England dentist, Dr. James McManus, of Hartford, Connecticut, we get these inspiring lines relating to the subject under consideration:

To the Editor:

The National and Southern Dentals associations for many years, has been asking congress to appoint dental surgeons to care for the soldiers and officers of the regular army. This request for years was almost insolently refused, but persistent appeals resulted a few years ago in the appointment of what are called contract dental surgeons. The desire of the committee, acting for the dental associations, was that the country and its soldiers, should have the

best possible service, only men of exceptionally good character, learning and professional ability to be appointed, and to such should be given rank as part of the army medical corps, without the incentive of rank and promotions. The best class of professional men would not be attracted to or remain long in army practice as contract surgeons. During the past 20 years there have been many senators and representatives who failed to give this movement careful investigation; and others who opposed it, seemingly to show their personal power. That soldiers and officers were unfit for duty often for weeks by dental and throat diseases, and the government expenses and loss thereby largely increased, were incidents not worth their consideration; and as there was persistent opposition by many influential army surgeons and injudicious uncompromising demands by a few dentists, action in the house of representatives was sidetracked and delayed for the past six years.

The army dental bill had strong, earnest advocates in the senate, while Senator Hawley of Connecticut and Senator Pettus of Alabama were alive, and since their death Senator Bulkeley held the fort in spite of the persistent opposition of Senator Hale of Maine. The bill reported by Senator Bulkeley was passed in the senate a few years ago, but the house shirked action. Senator Bulkeley again got favorable action in the last senate, and then with his usual energy and ability he followed the bill in the conference committee, and got the bill included in the general appropriation bill, and it was passed.

The dental surgeons now rank as members of the army medical corps. All that the extremists demanded was not granted, but recognition and rank and certainty that disability and age retirement will not leave them stranded on the cold charity of the world.

It is now up to the present dental surgeons to impress the army surgeons by their character, scientific knowledge and skill, that their promotion will be cheerfully favored by them, in future legislation.

It is possible, but very improbable, that a dental surgeon will ever be promoted to the rank of general of the United States Army. The present doctor general is the first M. D. that has gained that distinction or eminence, and it will be many years before another M. D. has his luck. One word from him would have given rank to competent dentists who hold the M. D. degree as he did, and also the

degree of D. D. S.. The old germ of medical prejudice was working full time, affecting his voice, keeping him silent while congress debated giving the rank that so many distinguished officers of the army so cheerfully advocated. A long earnest, and at times, bitter struggle is over. The men who appealed to senators and congressmen in season and out of season for years past, can now congratulate the country and its soldiers on the good and humane work accomplished. How great that work is, few at present realize, but in time it will be generally known and fully appreciated. Today we know how near we were to utter failure. The history of professional dentistry in America gives Connecticut rank as the birth place of Dr. Horace H. Hayden, the first president and the first professor of dental science in the first dental college in the world; president of the first dental society, and editor of the first dental journal, the discovery of surgical anesthesia by Dr. Horace Wells in Hartford, and now another page is added to its history telling of the earnest, efficient and masterly work done by Senator Morgan G. Bulkeley in securing the passage of the Army Dental bill in March, 1911.

JAMES McMANUS, D. D. S.

It is refreshing to read these patriotic and spirited lines from one who not only loves his profession but who expresses in clear and pride-filled words his admiration of his home state. THE AMERICAN DENTAL JOURNAL sends greetings. Long live Dr. McManus.

The following editorial, which appeared in the *Richmond Dispatch*, Virginia, will be of interest on this subject:

"Senator Bulkeley, of Connecticut, has incorporated into the Army Appropriation bill a clause providing for a corps of army dentists. The Senate has adopted the bill with this addition, and the fate of the proposition rests with the House. The corps will consist of one dental surgeon for every 1,000 men, eighty dentists to begin with. The pay and emoluments will correspond, grade for grade, with the Medical Corps, though no dentists will rank above major. Candidates for commissions must be graduates of dental colleges and not more than thirty years old. Military dentistry does not differ from civil dentistry, but the service will be advantageous to the army. A soldier who has the toothache is usually more troublesome when he is far from a practicing dentist than a really sick man.

"It seems unlikely that when the dental corps is really established its members will be restrained to the rank of major. The brigadier-generalship ought to be the least limit to promotion. As the *Providence Journal* says, 'With an M. D. now at the head of the army and doctors of the navy eligible to command some ships, the dentists may look forward to seeing one of their number at the head of his troops, forceps unsheathed, charging into the jaws of death, into the mouth of hell.'

"Whether this be a good idea or not, we cannot make up our minds. An army suffering with the toothache would be mad enough to charge Gibraltar; on the other hand, had there been some bold Major-General of Odontology in the Spanish Army, he might have attacked the Colonel and removed his teeth, which would have amounted to about the same thing as cutting the locks of Samson. For what would it have profited the Colonel if he had headed a regiment and then lost his own teeth?"

•

# SPECIAL CONTRIBUTIONS.

## THE SURGICAL SIDE OF DENTISTRY.

BY A. T. RASMUSSEN, D. D. S., LA CROSSE, WIS.

It will not be amiss to call attention to the fact that the removal of a pulp from the root canal of a tooth and the filling of that canal is the most delicate operation ever performed upon the human body. The instrument (the broach) is the finest and most delicate known to the surgical instrument maker. The field of operation is obstructed from view, making it necessary to be guided exclusively by the sense of touch. Then it must be the object of every one to fill that canal to its very apex every time. Again you cannot see the end and it therefore becomes a very exacting thing to do.

Notice I said it should be our aim to do this every time. I am not one of those who have reached such a stage of perfection that I can do it every time, but will say this that I do succeed in getting into very many root canals that at first it would seem impossible to even get the point of the finest broach into. I would like to go further into this but cannot take the time so will just say that patience and stick-to-it-ive-ness are two essential things to have a good stock of when trying to open one of these seemingly closed and tortuous little canals.

However, no stone should be left unturned or any effort considered too great to accomplish this end.

What was said a moment ago about sterilizing instruments used for extraction, holds good, even to a greater extent, possibly, in this instance. To begin with, the mouth should be in as nearly an aseptic condition as possible; then the necks of the teeth to receive the rubber dam should be thoroughly cleansed and wiped with cotton and saturated with alcohol.

•Of course no pulp extirpation can properly or safely be done without first isolating the tooth or teeth with the rubber dam placed so as to absolutely exclude the fluids of the mouth as well as the breath of the patient which is always laden with micro-organisms, both pathogenic and non-pathogenic. After being in place the rubber dam and exposed teeth should all be thoroughly cleansed with alcohol and dried with a blast of air. This having been done, the

instruments to be used in opening the pulp chamber must have been sterilized since last using them. (I have reference to excavators, chisels, burrs, etc.)

After most of the decayed material has been removed it is a good plan to saturate the remaining softened dentin with some of the essential oils such as oil of cloves or a solution of thymol in carbolic acid and evaporate it with a blast of warm air from the hot air syringe.

Now you are ready to open the pulp chamber. This being done, we come to the removal of the pulp itself. If this be done under pressure anaesthesia, be sure that the anaesthetic, whatever it is, is sterile and if the devitalizing process is used these precautions must be taken, both at the time of applying the devitalizing agent and of removing the pulp.

After the pulp chamber is opened, never allow anything to enter the cavity or canal which is not surgically clean. Never put a broach in the canal without first dipping it in an antiseptic of some kind, preferably in carbolic acid and afterwards immersing in alcohol. Then when laying down the broach, be careful that it never comes in contact with anything that is not sterile. These things are of the most vital importance. (Finish p. p. 11.)

Always remember it is vital tissues with which you are working; tissues which are sure to react to your treatment, be it good or bad. Do not think for one minute that anything can be slighted without its subsequent consequences. While you may not always see the results of your own carelessness, the other fellow will.

We will not go into details in regard to what is the best material with which to fill a root canal but want to say this, that whatever we use, it must be our constant aim and effort to fill that canal right to the end and no further, properly sealing the apex against the ingress of any secretions of the tissues to later undergo decomposition or act as a field for the development of any of the pyogenic organisms, causing the all too familiar alveolar abscess.

Just a word in regard to the proper time to fill a root canal. If the pulp is not previously infected, and it is opened and removed under proper surgical precautions, there is no better time to fill it than right then and there as soon as the hemorrhage is stopped and the canal thoroughly dried. You will never get it in a better condi-



tion and furthermore, the oftener it is opened the more chances of infection.

If properly done, you need have no fear of filling at once. When I say "properly done," I do not mean that any definite rules can be laid down which can be followed in every instance or even in a majority of cases. No, each and every case undertaken must be carefully studied and the conditions existing in that particular case, scientifically taken into consideration, even to the minutest detail and then treated accordingly.

Now what does all this mean? It means that the thoughtless ways which some of our fellow practitioners have gotten into must be forsaken and these same men get into the THINKING WAY if they would at all lay claim to being, not only intelligent men, but members of a learned profession. It means that we must all be keen observers and students as long as we live and not just scrape through college and then, to use at least one dentists' expression about himself, "never to have opened a book since."

Now I want to mention two things in this connection which I have had so forcibly thrust upon me from time to time that I cannot pass by this opportunity to mention them and at the same time sound a warning to myself as well as to you men assembled here tonight.

The first of these is that it is absolutely useless to take all precautions in the way of putting on the rubber dam, sterilizing the instruments, including the broach, removing the pulp under the most perfect conditions and then to do what it has been my misfortune to see in almost numberless instances, viz., to wrap cotton on a broach with fingers upon which absolutely no effort has been made to put them in a condition fit to touch anything coming in contact with a surgical wound and then insert this into the canal and wipe and twist it until one would think that the operator had a grudge against his patient and was not satisfied by merely carrying the infection into the canal, but wanted to "rub it in."

So long as this is done in a single instance, abscesses will occur after the filling of root canals.

Let me say right here that while washing the hands with soap and water is a very commendable thing, it by no means fills the bill or puts the hands in a condition where they are fit to wrap a broach with cotton to be inserted into a root canal. After washing, they must be cleansed with some of the more potent germicides.

Personally, I always use alcohol on the fingers the last thing. This quickly evaporates and leaves the hands dry so the cotton does not adhere to them.

The second is that it is folly to take all the afore mentioned precautions and then fill the canal with a guttapercha point that is not sterile. Now these points are not sterile as they come to us in the little paper boxes as put up by the manufacturer. Usually the person making them as well as the one who places them in the boxes has not the slightest conception of the meaning of the words bacteriology or micro-organism. How then can you expect the points to be in an aseptic condition when packed in the box ready to be sent out? Moreover, if they were sterile then, you would hardly expect them to be by the time they reach your office. I have seen these boxes opened in the supply houses, the points spilled on the show case, picked up with the fingers of the man in charge, placed in the box again and later, of course, sold to our unsuspecting brother, who, either never stops to think of else takes it for granted that the good Lord made and keeps gutta percha points sterile. He proceeds to fill canals with them and then wonders how it is that abscesses will occur after the canals have been "carefully filled." Gentlemen, I say it is a marvel that they do not all abscess after such treatment as this.

Now then, all this means that the members of the dental profession have got to get busy and become better surgeons. It is an encouraging feature that the dental colleges are laying more stress on this phase of dental education than formerly and that every year sees more men entering the profession, better equipped with that knowledge of the subject so essential to him and his patients and also men who more fully realize the importance of the surgical side of their profession. Men who can go out into the world and take their places alongside of the most learned and scientific men of the day and discuss, intelligently, the current events, both scientific and otherwise, but who most of all are **THINKING INDIVIDUALS** and not machines.

For fear of taking too much time, I shall refrain from going into the field of oral surgery, which I had intended to do. This as well as the entire surgical aspect of dentistry is very dear to me for the reason that I know what a vast amount of suffering the public will be relieved of and the untold pain, agony and disfigurement which will be prevented when every dentist is a thinking,

reasoning, observing and studious surgeon as well as being able to construct a good bridge, insert a good filling or make an artificial denture.

However, I shall have to leave that for another time. I have touched practically upon two points only and upon these it seems we have only scratched the surface. There are so many things that could profitably be said on either one that each would make a good subject for a paper all by itself.

Before I close I want to say this to every member of this society (and if those who are not members will follow out the suggestion, I will venture to say that we will soon have a larger membership.)

When we get home from this meeting, let us go to our book shelf and get out what works we have on physiology, histology, bacteriology, toxicology, chemistry, anatomy, metallurgy, materia medica, therapeutics, the practice of medicine and surgery, etc., and see what they look like. Then if they are old and antiquated, let us place them on the retired list and purchase new and up-to-date works. You cannot make a better investment than this. Then last and most important of all, let us become students of them. The best education a man ever gets is what he digs out for himself.

The effect of such study upon the individual pursuing it would be that he would become a keener observer of things as they come to him with the result he would be able to recognize the little symptoms which often mean so much to the patient under his care. As stated before, you need have no fear of his ability to treat properly if he once becomes a THINKER.

Even though most of you would not care to enter extensively into the field of oral surgery and perform operations for extensive necrosis or caries of the bone, empyemia of the maxillary or other sinuses, actinomycosis, ticadoloreaux, or tri-facial neuralgia, cleft palate, hair lip, carcinoma, epithelioma or any of the malignant growths which we see about the mouth and face, you would be rendering your patient a service of inestimable value, for which you would be entitled to a good fee, by recognizing the trouble and referring them to or placing them in care of some one whom you felt was competent and willing to take charge of it.

At the risk of repetition I would plead with you, let us strive to become better physiologists, better histologists, better bacteriologists, toxicologists, chemists, anatomists, better men, BETTER SURGEONS.

**EROSION OF HUMAN TEETH, CARIES, CAUSES AND REPE-  
TITION.**

BY J. OXFORD KELLER, D. D. S., CHICAGO.

## Seventh Paper.

Erosion is a peculiar, characteristic disease of the human teeth. It begins on the outer surface of the enamel and slowly works its way into the tooth structure, disintegrating, spreading and removing the lime salts as it proceeds. The loss of substance is the first symptom, with no sensitiveness during enamel perforation. There seems to be no softening, simply a wasting of tissue, leaving a smooth, polished surface, almost as smooth as the outer surface of the perfect enamel. After the enamel has been cut through, the dentin wastes more rapidly. During its progress through the dentine, the latter becomes very sensitive. The malady proceeds mostly on the labial and buccal surfaces of the teeth.

Forms of Erosion.—The areas of this disease may be dish-shaped, wedge-shaped, flattened, irregular, figured or elongated. They are determined from developmental, physical and chemical causes, as will be shown herein.

Its Physics and Progress.—It rarely changes the color of enamel, but the dentine after it becomes exposed assumes, first a light, then a dark brown color. The progress of the disease is exceedingly variable. The dentine may become exposed in two or three years. Sometimes its effect on the enamel will be scarcely perceptible for the first six or eight years after its appearance. In exceptional cases the decomposing agency will not perforate the enamel for nearly twenty years.

History of Causes.—Harris, *Principles and Practices of Dentistry*, page 355, latest edition, says of Erosion:

"This is one of the most remarkable affections to which the teeth are liable and occurs without any recognized cause. Its etiology has never been satisfactorily explained. It was first noticed by John Hunter, who called it decay by denudation."

In the *Dental Cosmos*, 1873, Dr. Charles Koch says that the pathological process of Erosion is congenital, or an acquired predisposition, aided or abated by chemical reagents.

Dr. Edwin T. Darby expressed the opinion that Erosion is produced by an acid in the buccal mucus.

Dr. C. Edmund Kells says that the disease is due to an acid, excreted by the mucous glands on the labial and buccal sides of the teeth.

Fairbanks of England ascribes Erosion to the decomposition of undigested food in the stomach.

Stockholm held the opinion that this malady was caused by gouty condition and general systemic acidity.

Billetter of Zurich holds to the mechanical theory.

Dr. W. H. Truman says that it is due to chemical-vital causes.

Baum ascribes Erosion to exfoliation.

Harris and Taft placed the cause as due to an acid condition of the buccal mucus. Bell, who was an early writer on this disease, held that the process was a mechanical one.

Dr. W. D. Miller makes no mention of Erosion in his "Micro-Organisms of the Human Mouth," 231 pages in all, but in the *Dental Cosmos*, January and February, 1907, there is published results of two years of his work on etiology of Erosion. He ascribes it to be caused by weak acids or gritty tooth powders, or both, aided by the tooth brush.

The tooth brush with Miller seemed to be the leading factor. According to this theory, if true, what has heretofore been called Erosion would be nothing more nor less than abrasion produced by mechanical agency.

Physical and Chemical Experiments.—Dr. Miller placed a number of teeth in wax, gutta percha, somewhat in the form in which they are in the mouth. He then moistened cloths with different weak acid solutions, and at different times he laid them over the organs so as to contact only the most prominent parts. After lying in a moist chamber for a length of time sufficient, the cloths were removed. The teeth were then brushed a given number of minutes, or hours, according to the time and acid strength, as determined in each case. The cloths were then again saturated, placed upon the teeth, then in moist chamber and brushed again. He kept up this process for days, weeks and months, varied as to acids, solutions, time and brushing. Some experiments were without the acid solutions, others by the use of tooth powders in common use by the people. Some brushing he did or had done by hand, so as to get more variety of motion. He gained results which he thought might indicate.

**Erosion Causes.**—Please observe that Miller, during his course of study in this problem entertained at different times many of the various theories of writers preceding him. At one time he ascribes the malady to weak acids. At another to some alkaline agency. Then he gives gritty tooth powder as a probable cause, and finally decides that the tooth brush might be the main factor. He was not so positive as Dr. Black, who, in his "Operative Dentistry," volume 1, page 49, says:

"The cause of Erosion of the teeth is involved in the utmost obscurity."

Then Black, in same book, volume 1, page 49, gives the eight theoretical causes of Erosion by different writers as follows:

(1) Erosion is a result of faults in the formation of tissue, during the growth of the teeth.

(2) Erosion is caused by friction.

(3) Erosion is the result of the action of an acid.

(4) Erosion is the direct result of the action of secretions of certain diseased glands.

(5) Erosion is a process of absorption.

(6) Erosion is in some way the action of an acid, associated with gouty diathesis.

(7) Erosion is effected by alkaline fluids.

(8) While dental caries is the result of the action of an acid, developed by micro-organisms, Erosion is effected by the enzyme of the same, or similar micro-organisms.

Enzymes means ferments produced in the human body.

Dr. Black discusses each of the eight foregoing suppositions in his "Operative Dentistry." He says of the third supposition, that "Erosion is the result of the action of an acid" as follows (Black's "Operative Dentistry," volume 1, page 52):

"The third supposition, that it is an action of an acid, has been held by many persons and in one form or other has more adherents today than any other. How is it that an acid can act so as to cut away the substance of a tooth, leaving a hard polished surface, which is a constant characteristic of Erosion, while all laboratory experiments and in caries as it occurs in the mouth, the effect is a gradual softening by a solution of the calcium salts, is left unexplained. As yet no acid has been found that will remove the whole of the tissue, calcium salts and basic substance without previous softening."

He finally quits this subject with the following paragraph (Black's "Operative Dentistry," volume 1, page 56):

"Finally, I cannot at present find any theory proposed, nor have I any theory to propose, that has not features that seem to render it impossible. I, therefore, feel compelled to leave the subject in this very unsatisfactory condition, hoping that an early solution of the difficulty may be discovered. It seems highly probable that this would be found connected with some systemic dyscrasia, but if so, the conditions leading to its strict localization will require explanation."

Physical and Chemical Experiments by Black.—In the *American System of Dental Surgery* there is published results of some of his experiments by using dilute solutions of hydrochloric acid. He took two fresh, healthy bicuspid and covered the greater portions of them, roots and all, with gutta percha, exposing only the crowns. These were placed in jars with the acid, in different strengths and arranged so that currents of the solution would pass on the outer surface of one tooth more than the other. The effect was more marked on the tooth receiving most current. Strong solutions of the acid would soften the teeth quickly, or quicker and slower according to strength, while a solution of one acid to five thousand of water had no appreciable effect in three months.

Dr. Edward C. Kirk, editor of the *Dental Cosmos*, calls the malady under discussion "Chemical Erosion," ascribing it to oral acidity and acid salts, the result of faulty nutritive processes. He says the acid salts are distilled out from the blood through the oral mucous glands and thus find their way into the mixed saliva. They precipitate mucin and localize areas of gelatinous plaques. In July, 1910, *Cosmos*, pages 734, and 735, concluding and beginning paragraphs, Kirk says:

"The mucous membrane becomes irritated not only by the mucin precipitated in the glands imbedded in this texture, but by the constant coughing and hawking occasioned by the effort to dislodge it. In the same way you may account for the hypertrophied condition of the buccal mucous glands, so frequently observed in the texture of the labial mucous membrane in those individuals suffering from chemical erosion of the front teeth."

Two causes of Erosion.—The latent hidden chemical power in the potassium acid salts in the saliva are fundamentally causative both of Erosion and rot in human teeth. The action of said salts

in sufficient concentrated strength either with or without excess acidity or alkalinity will decompose defective labial tooth structure same as in ordinary cavity decay. The logic of conditions, therefore, is as follows:

There are but five forces in nature which might destroy human teeth. They are friction, colution, exfoliation, absorption and decomposition. The writer has consulted several eminent physiological chemists either personally or their writings, and they all say that destruction of toothbone must be by one or the other of above forces, or some combination of them.

Because of the similarity of chemical structure in tooth bone, both in caries and erosive processes, it is but good reason and sound logic to ascribe the etiology of these maladies to the same classes of chemical causes. It is clearly shown in the November, 1910, AMERICAN DENTAL JOURNAL, this series of papers, that the forces of chemical decomposition only can produce decay in human teeth and certainly none but the same force aided by friction of the tooth brush, or other mechanical agency, can cause Erosion, with its peculiar characteristics.

The writer ascribes the neutral salt solutions in the saliva, either with or without excess acidity or alkalinity, to be the main factors because there are no other chemical reagents that obtain, or are taken into the mouth as food or condiments, which could produce the diseases in question. This serial shows most conclusively, that decay is not produced by micro-organic lactic acid agency. Such agency being out of consideration, there is no other known chemistry in the oral fluids than the salts aforementioned which could break down the lime salts of the teeth in such a way as to produce this malady. These Erosion theorists do not even lay claim to micro-organic lactic acid cause, for the reason that they can find no excuse for the lodgment of microbic lactic acid cultures in eroded areas. Yet the destructive causes are the same.

No Lone Agency.—Neither decay nor Erosion can be caused by any lone acidity, nor lone alkalinity. Anyone who is conversant with physiological chemistry and the constitution of human blood and saliva, knows that no lone agency, either acid or alkaline, can produce these diseases. The chemical constitution of human blood and human saliva forbids even the entertainment of any such propo-



sition. When you consider that the blood is most always alkaline and that saliva is distilled out from it through the oral glands, making a general mixture of alkaline salivary secretions, always containing some of the salts in solution such as potassium sulphocyanid, potassium chloride, potassium carbonate, potassium sulphate, potassium phosphate, and corresponding magnesium, sodium and calcium salts, frequently a dozen of more, and furthermore, considering that caries and Erosion must proceed in a saliva containing a solution of these salts, then he who ascribes any lone acid or alkaline agency of any kind whatever to be the cause of this affection is in error. The most that could be related of an acid or an alkali would be assistant causative to the main factor. Hence Erosion is not caused by weak acids, nor by any lone acidity or alkalinity.

The labia, buccal and lingual glands secrete from the blood. The average human system contains 300 fluid ounces of it, near three gallons. One-half of one per cent of lactic, muriatic, sulphuric or phosphoric acid would equal one and one-half ounces. That quantity of either of these acids alone in the human system would produce instant death. Less than one-tenth of one per cent of that amount of the element potassium, taken either in the stomach and much less absorbed into the system, would cause severe constitutional disturbances, convulsions and dissolution. In order to produce Erosion by either acidity or alkalinity the blood of the human system and the saliva extracted from it would have to contain near such percentages. Systemic and physiological conditions are such that the blood cannot contain enough of any lone acid or alkaline decomposing agency, in sufficient strength as to be directly causative of either malady.

The only oral agencies, therefore, which can destroy the lime salts of the teeth, in caries and Erosion, are to be found in the potassium salts or acid and alkaline salts in the saliva. These salts can exist in the blood in sufficient strength for systemic physiological purposes, and yet in sufficient concentrated strength, by respiratory evaporation or otherwise, would decompose the lime salts of tooth bone. Assisted by either excess acidity or excess alkalinity, the decomposition would be much more rapid. Potassium phosphate in chemical equivalence, as a neutral salt would thus be destructive, as would many other acid salts in the saliva. Alone they would produce neutral decays. With excess acidity, they would be more active, resulting in white lime decomposition; with excess alkalinity they

would be similarly active, resulting in a dark brown decay with alkaline characteristics.

**Fundamental Proposition.**—The loss of tooth structure both in caries and Erosion is always the result of neutral salts, in concentrated salivary solution, as a main factor. If Erosion is caused by the secretions from labial and buccal glands, said salts would be in the secretions thrown out by said glands. However, in addition to the secretions from said glands, there would be some intermixture with the saliva from the other oral glands. With both acids and alkalies in the blood either free in solution or chemically combined as shown by the analyses of physiological chemists, there can be no lone acid nor no lone alkaline conditions in said fluids. There can be neutral acids and salts, either with or without excess acidity or alkalinity. Both acids and alkalies are in the blood in solution uncombined; they would unite at once and form the various salts found both in the blood and saliva. This proposition is self-evident and fundamental. It is true, however, that in forming these salts by systemic processes, either by alimentation or chemical changes after lacteal absorption, either acid or alkali might be in excess, but both could not be in excess. If there would be more acid in the chemical process than is necessary to form the salts by chemical equivalence, then the condition would be one of neutral acid salt, or neutral acid salt plus excess acidity and vice versa neutral salt-alkalinity. If the decomposing process either in caries or Erosion take place by Miller's Micro-Organic Lactic Acid Process, or by any of the other chemical agencies in the salivary secretions, it can readily be seen that it must be by the action of the neutral salts in solution, plus excess acidity or alkalinity. Lactic acid in the saliva by Miller's Micro-Organic Process would readily unite with their bases and form salts accordingly. Decay process in such cases would be assistant causative by lactic acid as part of the salts in question, or with the salts and excess acidity. The decomposition in such cases would be Keller's Neutral Salt agency either with or without excess acidity or excess alkalinity.

**Localizing Areas of Erosion.**—Respiratory evaporation (see March, 1911, number of this serial) is the main cause of concentration of the buccal and labial secretions into plaques on the labial and buccal surfaces of the teeth, thereby gaining such strength as to

eat and break down the tooth structure in the eroded areas. Buccal and labial mucous plaques may result from other causes, but in either case the acrid results will be the same. These plaques or concentrated saliva must be the cause of the disease for the reason that both decay and erosion are caused by chemism and that there are no other chemical agencies that obtain in the saliva or taken into the mouth either as food, condiments or mendicines, which would do the work of destruction. The respiratory processes evaporate the water in the saliva, leaving the salts, mucin, epithelium and other salivary substances in concentrated form. Erosion is caused only by chemical action as the main factor and is most rapid during sleep.\*

Eroded Shape Causes.—The strict localization and shape of areas must be caused by faulty development in the tooth structure. Malformation of the enamel rods, and the dentinal tubules with irregular molecular tubular and rodular development with line salts not in chemical equivalence would cause the parts to have less physics and more feeble chemical union, thereby making the texture more susceptible to attack by the acid or alkaline salts. These conditions alone would be sufficient to decide the various dish, wedge and other shapes of eroded areas. Schnyder says that the malady is hereditary. One thing is certain that with equal physics and chemistry throughout the enamel and dentin, the disease would be as liable to attack in one place as another, except for the location of the mucous plaques containing the acrid salts in question. Therefore, maldevelopment, plaque formation and location must be the main factors in determining the shape of eroded areas in this peculiar characteristic disease.

Eroded Areas, Why Hard, Polished and Glossy.—The hard, smooth, polished surfaces always to be found a characteristic condition of eroded areas has been a stumbling block against the acid theory as a sole prime cause of this affection. This acid theory is held to be its etiology by more persons than any of the many other theories, which have been entertained. The hard polished surface has been an inexplicable problem.

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\*The subject of worry and shock have never been mentioned as a contributing cause of erosion; observation covering many years leads me to the conclusion that the mental state has much to do with this disturbance.—EDITOR.

Requotation of Black, part of a foregoing paragraph says:

"How is it that an acid can act so as to cut away the substance of the tooth, leaving a hard polished surface, which is a constant characteristic of erosion, while all laboratory experiments and in caries as it occurs in the mouth, the effect is a gradual softening by a solution of the calcium salts, is left unexplained."

Explanation.—The following chemical action and chemical reaction and proving experiment will show most conclusively, with good reason and sound logic that the hard, polished surface results as follows:

The gradual softening of the calcium salts in tooth structure in caries and laboratory experiments takes place because the teeth are kept in solution, digesting for months and years it may be during which the softening and decay gradually takes place. Carious and eroded teeth are at all times during the day kept irrigated with salivary secretions and during sleep are covered with them, either in concentration or plaque form; hence, the softening would require a long time and would proceed gradually and rapid or slow according to the texture of the parts to be decomposed or the acid strength of the solution. This continual bathing process of the saliva, frequently renewed and with fresh concentration and frequent plaque formation, is known to be the cause of the gradual softening, because removal from solution and contact with the acrid chemical salts, acids and alkalies, would cause the softening process to cease. Continual digestion is necessary for continued softening.

In both caries and erosion the process is chemical disintegration. Acid, alkali or salt molecules will combine with the molecules of the lime salts chemically combining with them and forming new compound salt molecules. As shown in laboratory experiments and as can be seen in tooth decay, the process is gradual. A decay process may be a year or two, or several years before it reaches the dental pulp. The erosion process continues on the smooth hard, polished enamel or dentin. The surface molecules are first loosened up from their chemical union. But now comes the patient with his tooth brush, its stiff bristles and gritty tooth powder. With erosive friction he disengages and detaches the loosened molecules, or between meals, with tongue, lip movement, anterior mastication, or washes away. They are brushed or wiped off, leaving a fresh, smooth, hard, exposed

surface, ready for renewed attack. The tooth brush would be assistant causative by removing the outside surface, loosened molecules of lime salts, leaving a continued, hard, polished surface renewed attack. This is not theory, but sound logic. What other agencies can do the work of destruction?

**Abrasion Proof.**—Abrasion in human teeth is further and strong proof of the foregoing physical and chemical forces in erosion. In this disease there is a gradual chemical loosening up of the surface lime salt molecules (mostly during sleep), which are then removed by frequent masticatory, labial, lingual or aqueous friction. These surfaces in consequence of these almost constant friction agencies, are hard, smooth, glossy and frequently sensitive, same as in erosion. Chemico-erosion would be no misnomer because it proceeds from both physical and chemical causes. There would be a gradual softening of the structure involved but for the mechanical agency.

**Proving Experiment.**—Place a freshly extracted central incisor tooth in a 5% aqueous solution of hydrochloric acid. Remove every few minutes and pass a revolving or tooth brush over the labial surface several minutes. Replace in the solution again then remove and repeat the brushing friction. Repeat this process for months, days or according to the strength of the acid solution. The tooth will wear away on the labial surface by the brushing friction, quickly or slowly according to the acid strength used, showing a hard, polished, glossy surface as in erosion and abrasion. The weaker the solution and the longer the experiment, the more glossy the wasted area. That part of the tooth not brushed will be gradually softened by lime decomposition. This chemical and physical experiment gives the physics and chemistry of both erosion and abrasion.

**Agency of Last Resort.**—Both caries and erosion have been ascribed by various writers and others during the last 2,500 years to every possible cause except the actual. Not only all the five forces in nature which might destroy such as friction, solution, exfoliation, absorption, and decomposition, but also gangrene, inflammation, excessive nourishment, congenital putrefaction, low vitality, worms, decomposition of food, chemico-vital causes, substances developed in the mouth, micro-organic lactic acid agency, weak acids, digestive ferments, alkaline substances, faulty development, secretions of diseased glands, and every other possible agency except the main actual

force which does the work of decomposition. They have guessed or discovered the assistant causative agencies, such as the various acids and alkalies associated with salts in the salivary secretions, but have never discovered the main hidden decomposing factor which causes decay or softens or loosens surface lime salt molecules. Not until original classic research had ascertained that the salts formed by the union of acids and alkalies, by systemic processes, and later distilled out from the blood by the salivary glands, did the fundamental causes of decay in human teeth become known. These neutral salts, by double chemical reaction (four forces), are the basic factors in the destruction of human teeth. Excess acidity or excess alkalinity in association with said basic factors, become assistant causative. As there are no other known chemical forces which obtain in the mouth or taken in the oral cavity as food, condiments or medicines, which could or might do the work of destruction, the potassium acid salt processes of decay, either neutral or with excess acidity or alkalinity become the agencies of last resort. All other acid, alkaline and systemic processes or conditions have been at various times ascribed by different writers as the cause of the maladies in question.

Erosion and Caries Problems, Why Difficult and Long Unsolved.—The ablest alchemists, physicists and physiological chemists have essayed the discovery of the causes of these affections near 2,500 years. The earliest attempt at caries causes which the writer has been able to unearth was by Hippocrates, 456 years B. C. He said the stagnation of the depraved juices in the teeth was the cause of tooth ache, preceded by tooth rot. Nearly 2,000 years later we find similar causes ascribed by Krauerman, Bourdett, Bell, Serre, Cappis, and others. Hence it can be seen that the progress at discovering the true causes of caries and erosion has been very slow. November, 1910, this serial and this paper gives an extended history of unsuccessful attempts at ascertaining the causes of these diseases.

Why Difficult.—The erosion and caries problem have been very difficult of solution because there are three distinct classes of chemical agencies which do the work of destruction. Notwithstanding the exceptional ability, high position of the many students of this problem, they have generally ascribed it to a single agency, with no classification. Caries and Erosion are caused by a combination

of chemical forces as fundamental factors, hence classification of agencies was necessary to get at the basis of specific causes. Each supposed discovery by them, especially of recent years, was by a single agency and each seemed to have its merits and demerits. Witness the micro-organic lactic acid theory of Miller and advocated by such able men as Black, Kirk, Williams, and others; but the logic of conditions and the constructive logic concerned in the unclassified physics and chemistry of the propositions made by them will not bear scientific classified research. It was not until a classification of the chemical agencies concerned in tooth rot was made, that the true causes of the disease under discussion could be formulated.

Why Long Unsolved.—Hence no discovery, because of no classification of the decomposing agencies concerned. No original classified research. It is almost self-evident that there is more than one agency in tooth decay. A classification of these agencies would soon have enabled a discovery of specific causes, and a knowledge of these causes would have enabled a solution of these great problems long ago.\*

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### PYORRHEA ALVEOLARIS.

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BY GEORGE B. HARRIS, B. S., D. D. S.

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The local causes of pyorrhea are well understood. The local conditions are only local manifestations, however, of a constitutional disorder. The constitutional disorder must be discovered and overcome before we can even hope to bring about a permanent cure. When this is discovered, and the proper treatment carried out, pyorrhea can be cured.

The calcic deposits that form on the teeth are deposited there from the saliva, being precipitated in the presence of air. So long as the air is excluded from saliva the salts are held in suspension, but as soon as air is permitted to come in contact with the saliva, a precipitation takes place, the amount of which is governed by the

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\*Sculptors, when laboring on delicate and unprotected parts of the marble as in shaping fingers or leaves, where the blows of the hammer on the chisel would break the part, often give the surface a delicate coat of acid and then with stiff brush and sand paper, the erosion is easily accomplished. This is so similar to dental erosion I was impelled to add it to the article.—EDITOR.

amount of air present and the amount of salts in suspension and solution. As long as the salts remain in solution, precipitation takes place very slowly and in many cases hard to produce at all.

As soon as the saliva becomes saturated, then any remaining salts not dissolved but held in suspension, forms on the teeth.

To prevent this precipitation from taking place, we must limit the amount of salt in the saliva to that which the saliva is capable of dissolving.

The abnormal amount of salts in the saliva is due to faulty elimination. Chronic constipation prevents proper elimination of these salts, and is very difficult to control. We can control it during the treatments, however, and afterward the patient should be turned over to the physician for further treatment and permanent cure, if possible to obtain it. In the treatment of constipation, not only should we employ a laxative but we must use such drugs that will remove all waste products from the body. Lots of the mild laxatives will not do this. The best drug for this purpose is epsom salts and lots of water. Afterward some of the laxatives could be used, but if the case is at all chronic, as they generally are, salts should be taken every week. Such substances as "Sal Hepatica," "Salvitae," sodium phosphate, mineral waters and a host of others might be used intermittently with epsom salts.

Another cause for the faulty elimination of waste products from the body is the excessive amount produced. Faulty metabolism due to improper digestion, is brought about by lack of thorough mastication of the foods and a lack of digestive ferments in the stomach. In these cases marked improvement can be brought about by the use of Peptones. In these cases I use Bell's Pa Pay Ans with good results. Lact hydrochloric acid will produce similar results.

Another cause for the calcic deposits on the teeth is mouth-breathing. Mouth breathers are very susceptible to pyorrhea. By breathing through the mouth we bring large quantities of air in contact with the saliva for long periods of time, causing large quantities of calculus to be precipitated. These calcium salts, the chemical constituents of which are very similar to the teeth, have a strong affinity for the enamel and unite with it. The cause of mouth breathing is generally some nasal obstruction, which should be removed.

Frequently rheumatism is associated with pyorrhea. Uric acid solvents are sometimes useful in these cases. If syphilis is the real



cause, as it sometimes is, the treatment for syphilis is very important. Patients may or may not know that they are syphilitic or if they are they are loth to say so. This can be determined by giving the syphilitic treatment of iodides and mercury. If syphilis is present and is the real cause of the trouble, there will be a marked improvement in a week or two after the treatment has been begun.

In the local treatment for the pus discharge, vaccine therapy is invaluable. First, a determination of the nature of the infection is very important. If the infection is streptococcic, staphylococcic, vaccine will have no effect. The infection most generally found is streptococcic, staphylococcic or pneumococcic. There might be a combination of the three, in which case a mixed vaccine of the three should be employed.

The removal of the systemic causes having been brought about and its pus discharge stopped, the next important consideration is the repair of the alveolis. This will take place provided there is sufficient mineral salts present in the body to make it possible. Generally there is not, because in eliminating the waste products we have also eliminated any other reconstructive salts not being used at the time. This makes it imperative that we supply phosphates, lime and other bone building substances. For this purpose hypophosphites of lime and soda and in certain cases iron are the most useful. Here again I use proprietary preparations as they are generally more palatable than those we might prescribe from the U. S. P. or N. F. Those that I am most familiar with are Schlotter & Foss's Aquius solution and McArthur's syrup.

The hypophosphites should be continued until complete repair is brought about, which generally takes several months.

**ARTIFICIAL DENTURES SHOULD CONFORM IN SHAPE AND SHADE TO TEMPERAMENT.**

BY B. J. CIGRAND, B. S., M. S., D. D. S.

No matter how anatomically correct or how skillfully adapted for speech and mastication an artificial denture may be, yet if it bear not the relation demanded by age, facial contour and temperament, it cannot be otherwise than that its artificiality will be apparent to every beholder. The law of harmony thus found in nature between the teeth and other physical characteristics requires due respect to size, shape, color and other qualities in an artificial denture in order that it shall correspond with other indications of temperament. There is no dental service that, from the æsthetic standpoint, is as a rule so illy performed as the prosthetic.

To the prosthetist the lines of the face and all its numerous symbols is an essential factor in arriving at agreeable results.

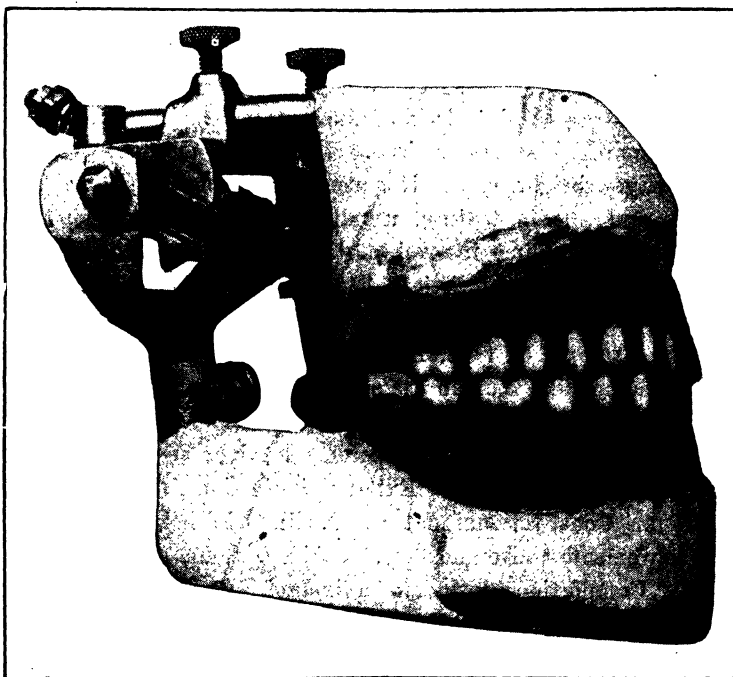
In dental prosthesis and oral surgery the modern dentist must be, in the full sense of the word, a "facial sculptor," for to his tender care and consideration is left the molding of many a scowl or smile. He must appreciate the lines of beauty in expression and discern at a glance the changes necessary in the different physiognomy to make them charming and inviting rather than repellant and false, and it is for this reason that a knowledge of temperament is imperative, since a violation of the rules of harmony would destroy the æsthetic features in either crown or bridge as well as denture.

The choice of man's food is in perfect harmony with his physical and mental inclination, and consequently the former is the energy with which he accomplishes the latter. Besides the character and outline of his teeth, their occlusal surfaces indicate to a certainty the preferences of his foods. This is best studied in the lower animal kingdom, since they live in perfect naturalness and have not been changed by conventionalities. The sharp, pointed teeth of the canine family, with jaws that have simply the ginglimoid movement, proclaim to those who understand the text theorem of mastication that meat is their favorite sustainer.

The flat and cusplless molars of the grain and cereal eating animals state clearly the disposition of the animal. Comparative anatomy really forms the basis of perfect knowledge of human anatomy. The temperaments of people in consequence have a strong

resemblance if not relationship to animal disposition.

The law of harmony thus found in nature, between the teeth and other physical characteristics, requires due respect to size, shape, color and other qualities in an artificial denture in order that it shall correspond with other indications of temperament.



The Motive Temperament.—To the ancient it was known as the muscolo temperament. Persons of this quality of body and mind are “human powers,” strength and endurance their peculiar characteristics, constitutional powers and great muscular strength. Tall and angular, active, steady and firm. Facial contour square, angular and high cheek bones. Complexion, dark and sallow. Quality of voice, strong and full of vibration. Nose, strong and usually Roman. Eyes, dark and piercing. Hair, dark, coarse and abundant. Fingers, long and knotty. Teeth angular, three sharp cusps; appetite, inclined to eat liberally of meat. Favorable characteristics, energetic, persevering, executive and ambitious. Unfavorable characteristics,

extreme in expression and often domineering. Examples of type, old Roman. Comparative anatomy, the lion. Human example, Daniel Webster.

The Mental Temperament.—To the ancients known as the nervous temperament. This temperament might be called the sensitive, refined or brainy. External indications, well-developed nervous system, studious and refined expression. Constitutional outline, full and graceful figure. General movements, quick, active, decided and restless. Facial contour, delicate, oval and finely cut. Complexion, abounding in grayish tint, lack of flush. Quality of voice, strong, clear, high pitched and melodious. Nose, well developed, usually Grecian. Eyes, bright, expressive, usually gray or blue. Hair, not abundant, and fine in texture, usually brown. Fingers, long and thin. Teeth abounding in oval outlines, appetite inclined to the fruits. Favorable characteristics, refined, imaginative, scholarly and studious. Unfavorable characteristics, sensitive, aspiring and often eccentric. Example of type, American people. Comparative anatomy, the grayhound. Human example, Thomas Jefferson.

The Sanguine Temperament.—To the ancients known as the plethoric temperament. This temperament might be called the sanguine, hyperæmic or cardiac. External indications, flush and florid complexion. Constitutional outline, medium in height and lively, general movements active and easy. Facial contour, round, with full forehead. Complexion, florid and animated. Quality of voice, soft and clear. Nose, rather small, usually Grecian. Eyes, usually blue. Facial contour, round and forehead unshapely; complexion, pallid and muggy. Quality of voice, poor and indistinct. Nose, small. Eyes, sleepy and inexpressive. Hair, blonde and sparing. Teeth, poor cusps, width predominating over length. Appetite, cereals. Fingers, medium in length and rounded. Favorable characteristics, mirthful, social and friendly. Unfavorable characteristics, passionate and high-tempered. Examples of type, Danes and Germans. Comparative anatomy, shepherd dog. Human example, John Adams.

The Lymphatic Temperament.—To the ancients known as the phlegmatic. This temperament might be called stomachic or digestive. External indications, round and well-developed jaws. Constitutional outlines, fleshy and bulky, general movements slow and sluggish. Hair, coarse, straight and drab. Fingers, short, flabby

and cold. Teeth scarcely any cusps. Wider and thicker than the sanguine. Appetite, succulent foods. Favorable characteristics, contented, agreeable and jolly. Unfavorable characteristics, sluggish, lazy and unenergetic. Example of type, Esquimaux. Comparative anatomy, swine. Human example, Henry the Eighth of England.

As an aid to determining the teeth it might be well to say that when the jaw cannot be freely rotated it indicates a predisposition on the part of the patient to live the life of carnivora, meat-eating; while when the jaw can be readily thrown from right to left there is a disposition in the owner to be herbivorous, grain and vegetable eating. In the former I observe that the glenoid cavity is *deep* and in the latter *shallow*.

Dr. Royce some years ago read a paper in which he clearly showed the necessity of giving variation of shades to the teeth in full cases. He has conclusively demonstrated that, in a normal set of teeth, there are a great number of shades; that is to say, the laterals are of a peculiar shade; the cuspids are of a peculiar shade; the centrals are of a peculiar shade, and the bicuspid and molars accordingly. And he has shown us further that even the laterals are not of the same shade, but that there is a great variation in all these shades. It is one of the most important contributions to the art of prosthetic dentistry we have had this year. I am trying to follow it out, and I am getting splendid results from it. I am at the present time taking as many as five and six sets of teeth and arranging them for one set, and it was this same idea that prompted me to show before the Illinois State Dental Society some years since a set of teeth, articulated and occluded, according to the ideas I advanced in that paper, and the set of teeth I showed at that meeting was made from several different sets of teeth.

As regards the variety of shades I spoke of, you will find that if the teeth are constructed on this plan, the variation of shade will give a magnificent set of teeth. It is following out nature's great law of correspondence, and if we do not adhere to this great law we are artisans and not artists. That is the difference between the mechanical dentist and the prosthetic dentist, the former being an artisan, the latter an artist.

With reference to the matter of shades of teeth, there is scarcely a Logan crown which is not from one to two shades too light. Pos-

sibly it is our own mistake. We have been taught that before setting a Logan crown, or any artificial tooth, we should clean the teeth. That is proper, but we must consider, when we match those teeth, that when we have thoroughly cleaned them they are not going to stay that way. You may tell a patient to brush his teeth three or four times a day, and invariably he will not do so. After the Logan crown is in the mouth six months, although it was perfect as regards the law of correspondence when it left the office, how does it appear now? It is too white. It seems to me we match the teeth too carefully in some cases, and I think in many instances after we set a Logan or Richmond crown the color is a trifle darker than the case indicates, and after you have cleaned the teeth the patient will look decidedly better. Of course, it will have been a deception to the public. The deception of art is true art, and by so doing we will have made a step forward.

It was Dr. C. W. Peale who, something over one hundred years ago, recognized the variation of size and shade in the dental organs. He advocated years ago ideas which today are just being understood. He was an artist and a dentist and his knowledge of both made him stronger in either vocation. He recognized the great variety of shades which entered into the natural denture of man; he saw the variation and his early artificial teeth bore out the principle that "the teeth of one person are not of the same shade; nor do the shades remain the same through life."

Dr. Richardson, famous as a prosthesis, and Dr. Allport observed the same, while at present there is much discussion of that which Peale practiced a hundred years ago. He, being an artist, made nature his model and copied accurately the divinely ordained. To perfectly restore the face which has lost its dentures is indeed the crowning glory of prosthesis. To recognize the form and character of teeth required, as well as produce the shades of the teeth congenial to the age and temperament of the patient, is both an art and a science. We can only know how thoroughly scientific, artistic and technical the task of facial restoration is after having made nature our model and teacher.

Not observing these facts causes many an artificial porcelain crown to stand out conspicuously, lighter in shade than the surrounding denture, and this glaring defect is all the more noticeable when the crown is a labial substitute. If true art consists in "hiding

art," then we have many lessons yet to learn ere the artifice approaches harmoniously that of nature. It should be our every aim to copy after the ideal pattern furnished by the Creator and not attempt to set up so many clandestine models, for, after all, the most esthetic and invariably most useful is indexed in the book of providence. Even when nature or disease has decreed that the teeth be pitted and present surfaces of a peculiar shade, the single artificial substitute which you supply should possess these same apparent defects in obedience to the great law of correspondence, since a violation of this standing resolution in nature would make the crown an ugly and incoherent sight.

Art will lead us to employ new methods in plate work and bridge work, and it will induce us to improve most of our appliances, besides inculcating in both operator and patient a reverence for the divinely ordained.

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#### THE DENTAL EDUCATIONAL COUNCIL OF AMERICA.

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Office of the Secretary-Treasurer.  
Henry L. Banzhaf, 120 Wisconsin St.

MILWAUKEE, WIS., April 14, 1911.

AMERICAN DENTAL JOURNAL,

Dr. Cigrand Editor,

Logan Square, Chicago, Ill.

DEAR DOCTOR:

A joint meeting of the Executive Committee and the Committee on Colleges of this Council was held in Chicago on Sunday, April 9. One of the subjects up for discussion was how to best stimulate a sympathetic interest in the profession in behalf of the work which this body is now endeavoring to do.

From the outset, it was realized that the aim and object of this organization is not very well understood by the profession, and the secretary was instructed to write to the editor of every dental journal and respectfully invite his cooperation.

Enclosed we hand you a copy of our articles of organization which will give you information along general lines. Doubtless you are aware that there has been a great deal of general criticism of American dental colleges. Justice compels us to say that after two years of work along these lines, we are free to confess that there is some justification for some of the complaints which have been

made. By reading the circular you will note that this council is composed of five representatives from each one of the three national bodies, and we feel that therefore it should be regarded as representative. Our function is purely advisory, and we are trying, in a systematic way, to find out what the real trouble is that is being complained of by making a thorough investigation of the kind of dental education now being offered, and we hope, in due time, to make recommendations based upon our findings. A report for this year's work will be made at the next annual meeting of the three national bodies, and we hope that our organization will be continued for at least another year.

The question of how reforms in dental education can be enforced very naturally arises. What is the good of an inquiry if suggestions making for reform, made by a fair-minded commission cannot be enforced?

We are frank to admit that an inquiry, no matter how searching, which may be conducted by this or some other commission, will not necessarily provide men with a conscience. In other words, it is not an easy matter to make men honest unless they want to be. There are ways and means, however, which we believe can be adopted with good results. The one legal body that we know of that can enforce the law is the State Board of Dental Examiners, and at the proper time, should occasion demand this, we believe that action can be procured.

There is, however, another side of this question. Many of the differences that have arisen between the colleges, state boards and the profession at large, are due to prejudices which find their origin in a lack of mutual confidence and respect. That there are dental colleges which are not worthy of the name, every thoughtful and well-informed member of our profession will admit. On the other hand, there are many dental colleges that are doing good, honest work, and this fact must not be lost sight of.

During the past year we have heard some talk of the advisability of inviting the Carnegie Foundation to investigate our dental schools. We have no fault to find with this, and would cheerfully cooperate with any properly constituted commission, in an endeavor to raise our standards of dental education. Some time has now elapsed since this commission or foundation has made its report on medical education. Just how much good this report has done, we do



not know. The question to which we would like to invite your thoughtful consideration is, Are fairminded men representing our three great national bodies who are familiar with the needs of dental education, and who are making a study of its problems, entitled to the cooperation and assistance of the profession at-large? If the state boards, dental colleges and their faculties, and our state dental societies will get behind this movement, and the information of how this can be done is given them through the medium of our dental journals, it is easy to prophecy that the results obtained will make for the general up-lift of dentistry. The best results, however, cannot be obtained in one or two years, and we believe that it is only by patient, persistent and honest effort that permanent improvements can be hoped for.

I shall be glad to hear from you, and can promise in advance that I will frankly, fairly, and to the best of my ability answer any questions you may care to ask respecting the work of this council and its organization. If you are interested, will you please write an editorial along broad educational lines to be published in your May or June number?

With sentiments of esteem and kind personal regards, I am

Sincerely yours,

HENRY L. BANZHAF,

Secretary.

For the benefit of the readers we add the names of the officers and the several committeemen:

#### COMMITTEES.

Chas. P. Pruyn, president; Richard Summa, vice-president; Henry L. Banzhaf, secretary-treasurer.

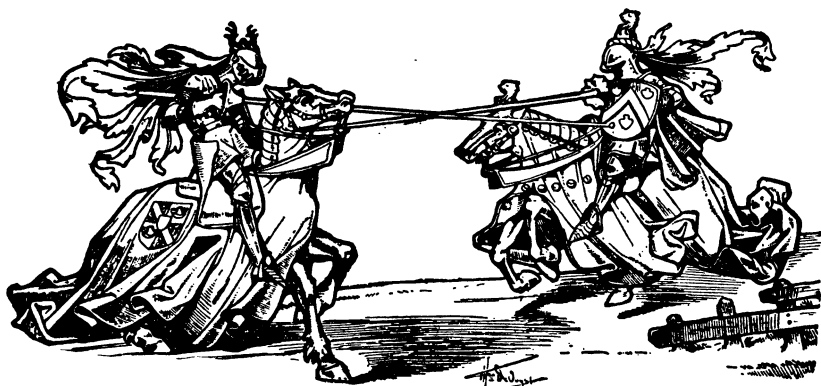
Legislation—J. V. Conzett, chairman, Dubuque, Ia.; Howard E. Roberts, Philadelphia, Pa.; A. R. Melendy, Knoxville, Tenn.; J. D. Patterson, Kansas City, Mo.; F. O. Hetrick, Ottawa, Kansas.

Curriculum—Geo. E. Mitchell, chairman, Haverhill, Mass.; Wm. C. Deane, New York City; Wm. Carr, New York City; George E. Hunt, Indianapolis, Ind.; Richard Summa, St. Louis, Mo.

Colleges—W. E. Grant, chairman, Louisville, Ky.; S. C. A. Rubey, Clinton, Mo.; Louis Meisburger, Buffalo, N. Y.; Chas. P. Pruyn, Chicago, Ill.; Henry L. Banzhaf, Milwaukee, Wis.

(If you have any grievance relating to the above conjoint committee work, write to the chairman, who will take the matter under advisement.—EDITOR.)

# PROFESSIONAL ARENA.



[In the space devoted to this department many of the so-called solved problems are to be opened for re-examination. Besides such other topics as are of greatest importance will be brought to the attention of the readers, and ablest talent will be engaged to discuss interesting dental themes.]

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## IN REPLY TO DR. CALKINS, M. D., D. D. S.

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BY GEORGE B. HARRIS, B. S., D. D. S.

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Dr. Calkins takes exceptions to certain statements made by the writer in an article published in the December issue of the *AMERICAN DENTAL JOURNAL*. He does not stick very closely to the question, but he undertakes to show that amalgam fillings are better than gold.

I quote Dr. Calkins: "The fact remains that it (amalgam) is the king of filling materials." Amalgam is certainly a good filling, when properly inserted, but when properly inserted it is not as good a filling as gold, properly inserted. Amalgam, improperly inserted, is not a good filling and amalgam inserted in an aseptic cavity is improperly inserted. In the article in question, I stated that it was impossible to have a perfectly sterile cavity without using the rubber dam. This fact Dr. Calkins does not disprove. Amalgam is no longer the king of filling materials, if it ever was. The gold filling has long since dethroned amalgam. The malleted gold filling is the king of fillings and bids fair to remain so, regardless of the gold inlay and enamel fillings.

Dr. Calkins asks how "I knew at what time the agent of decay was active in the teeth from which he removed the alloy fillings." I didn't know whether there was any decay under the fillings or not. Had I known I would not have removed the fillings. I removed the fillings to find out. The time the agent of decay was active can only be assumed. The fact that the decay was there, under an apparently good filling, shows this: either the infection was never removed or else it gained entrance after the cavity was filled. We assume that the infection was never removed, for if it gained entrance after the filling was inserted then amalgam should never be used. I do not believe that the infection entered after the filling was inserted as the fillings appeared tight and had they entered in this way, we have a right to expect to find the decay greatest at the borders. This was not the case so, as I say, I assume that it was left in. Now a small per cent of these may have been caused by improper excavation. That is, the operator may have knowingly or unknowingly permitted some decay to remain, but I do not believe that many were. I sincerely believe that the vast majority of dentists are conscientious, painstaking men, having the best interests of their patients at heart. Even if all these fillings were put in over decay, why is it that there is no decay found under the gold fillings? I say no decay. I found decay under a few, but if we are going to allow for a few amalgam fillings showing decay as the result of some quack we should also allow for the same in regard to the gold.

Nevertheless the fact remains that there is decay under a great many amalgam fillings and very little decay under gold fillings. There must be a reason for this, and it is this reason I tried to discover.

I quote Dr. Calkins: "Who will deny that it is not possible—either with or without the dam—to disinfect certain portions of decay, and thereby render the agents of decay inert." "Certain portions of decay." What portions of decay? I would ask what portions the doctor would disinfect? If we do not disinfect all what is there to hinder further decay? By what means are we to disinfect the decay? We cannot reach all the bacteria with phenol, and what can we use that penetrates further than this? If we use a stronger agent, the damage done to the dentine would play havoc. These drugs do not

begin to penetrate the tubules, and it is the bacteria in these places that cause the decay to continue. Absence of moisture alone can prevent these bacteria from doing further damages, and absolute dryness cannot be obtained or maintained without the use of the rubber dam. The breathing of the patient through the mouth produces sufficient moisture to permit the further development of these bacteria. If it is not because the cavity is not sterilized, why is it that amalgam fillings persistently show decay? If it is not the moisture that makes the development of the bacteria not removed or killed possible, what is it that permits the tooth to continue to decay under these amalgam fillings and not under the gold, where absolute dryness must be had and maintained during the insertion of the gold filling?

Dr. Calkins gives some experiences. He tells what a trying time two students had putting on a rubber dam while in school. No doubt they had a time. We all have gone through that same experience. I think, however, that they should have called one of the demonstrators to assist them rather than spend two hours trying to put the rubber dam on, as Dr. Calkins says they did. But supposing it took them the two hours. I don't suppose it would take the same men two hours to put the rubber dam on that same tooth now. Again, I do not doubt but that the amalgam filling, in this case, is about as good as the gold, because that is a difficult place to put in a gold filling, while the amalgam filling was not put in by students. Even if it were, the amalgam filling would bid fair to last as well as the gold as the amalgam would have been much easier to put in by them than the gold would. He says "the two fillings are doing equal service \* \* \* " Maybe they are; maybe they are not. If there is decay under one and not under the other they are not doing equal service. How can Dr. Calkins determine this point without removing them? But supposing they are; the fact still remains that I found decay under the fillings I removed and am still doing so. The comparison of these two fillings does not explain why the decay should be there.

Dr. Calkins then goes on to speak about some fillings that were put in by him seventeen years ago. I will quote him: "The writer's initial experience in tooth filling was seventeen years ago in his preceptor's office, for a brother. He has thirty fillings, most of them amalgam, and done about this time. Notwithstanding the operator's

lack of experience, none of the fillings have failed that I can recall, and he certainly never lost a tooth."

He says most of these fillings were amalgam but does not say what the other fillings were. How does he know they were an even thirty? If he has a record of them, and surely he cannot remember the number so long, that same record would show that some of them were renewed, if they were. He says he cannot recall that any were. Memory is uncertain. It is possible that they are all in, I hope they are, but is there no decay under them? How does Dr. Calkins know this? If there is decay under them, the tooth will go on and decay, until finally the filling will come out. There may be no decay there. I hope not; but I have yet to see one case where there is not. I don't mean that there is decay under every amalgam filling. I still hope to find many where there is no decay. I must stick to the truth, however, that I have not found one yet.

Again I quote Dr. Calkins: "'Another instance is a form of amalgam inserted by a patient's own hands, over decay and moisture, using for implement a wire from a bale of hay. I removed those fillings about two years later, and am sure the material had not been worthless, even under such unfavorable conditions. It enabled the victim to preserve, in a measure, what otherwise would have decayed and probably have resulted in the loss of the teeth."

This is interesting. What was this form of amalgam? If it was not amalgam, why is it brought in to defend amalgam? How is the Doctor able to tell that this stuff preserved these teeth, even to the slightest degree? How long was this stuff in the teeth before it was removed? What was this "form of amalgam"? We cannot have a form of amalgam. It must either be amalgam or something else. An amalgam is a metal dissolved in mercury. If this substance was dissolved in mercury, it was an amalgam. If it was not, it was not an amalgam.

"Since beginning this article I have had a visit from a patient for whom I inserted eleven amalgam fillings thirteen years ago when he was 25 years of age. He had several inserted by other dentists when he was much younger, and none are failures as far as he can report, except one which became dislodged. That one was inserted in the distal of a lower bicuspid, and it is the writer's opinion that it had done better service than a gold filling would have done in a place where so much of the tooth had to be restored."

Dr. Calkins does not strike the point. He gives cases where amalgam fillings have stayed in. Most of them do. Those that I removed, stayed in. The bone of contention is this: is there any decay under those fillings? If there is decay under a filling, gold, amalgam, cement or any other filling, do you consider that a successful filling? Do you believe that a filling can or does preserve a tooth indefinitely, when there is decay under it? If you do not, then you must consider fillings having decay under them failures. Now take the filling that was dislodged. Why was that filling dislodged? It did service, if it preserved that tooth but three weeks. If that cavity had been cut so that the dislodgment could not have taken place, it would have done better service, hence it would have been a better filling. Had that filling been gold, it would have been necessary to cut that cavity so that a dislodgment would have been impossible, because it would have been impossible to put in gold filling, if there was not the proper retention to hold it. This would avoid the second filling of that tooth, saved the patient the unpleasantness of having the work done over again, and preserved the tooth. If the tooth was too far gone to permit this, it should have been crowned in the first place.

"I believe amalgam fillings in the distal of second bicuspid and molars are better tooth preservers than any gold filling pulled to place, and consequently not properly condensed."

If it is necessary to pull a gold filling into place, the cavity is not properly prepared. If the cavity is prepared in such a way that you cannot get direct access, a gold filling should not be attempted. The cavity should be cut so you can get direct access. This is true of amalgam as well as gold fillings and is another reason I gave, in the original article, why amalgam fillings are so often unsuccessful. If you do not have direct access in these cases, you cannot press the amalgam directly into the cavity and the use of the matrix is out of the question. The matrix is of importance. Dr. Root agrees with me on that point, according to his article in the January issue of the AMERICAN DENTAL JOURNAL.

Dr. Calkins says gold inlays are far superior in these cavities. (Presumably superior to amalgam.) They certainly are. I think he is wrong, however, when he says that comparatively few can afford them. That might be true if we consider "the world at large." The world at large, however, gives practically no attention to their

teeth. A very small proportion, indeed, of this world at large give any care to their teeth at all and this small per cent can afford the gold inlay. The amalgam filling could not be king because some one could not pay for gold.

“ \* \* \* The writer is not an enthusiast in its use, but it is certainly indispensable in the hands of the majority of dentists for children's teeth and in places where it is next to impossible to use the dam.” Then he goes on to say. “I am sorry for the man who can not disinfect a cavity and keep it dry with the use of napkins.”

Amalgam is certainly useful in children's teeth and the rubber dam can be dispensed with. In lots of cases it is not necessary to remove all the decay, as these teeth are not permanent. I guess Dr. Calkins' sympathy goes out to all the dentists in this wide, wide world. How can he disinfect a cavity with a napkin? How is a napkin going to keep it dry? How is he going to prevent moisture collecting on the cavity, when the patient breathes?

“Ninety-five per cent of amalgam fillings are not worthless.” For “when placed in fissures and pit cavities or anywhere confined within four walls,” (How about those not confined by four walls, and how many are?) “they are as permanent as gold; for gold foil is **LIKELY** to rock while being inserted” (but supposing it does not rock?) “in pit cavities and be unobserved,” (but it is most likely to be observed as it is hard to put in a filling that is rocking, let alone not seeing it) “and for the reason that they do not rock while being inserted in fissures, they leak for lack of condensation against the walls.” What is there to prevent the dentist from condensing the filling?

Nowhere in this article does Dr. Calkins try to explain why the decay should be persistently under the fillings removed. He cites a few cases where amalgam fillings have stayed in. I have seen many of them myself. The vast majority stay for a while, but he does not know whether there is decay under them or not. If there is they are not properly protecting that tooth and therefore are not good fillings. That filling may be better than none, but, if the patient knew that the tooth was decaying under the filling, he would have it removed and another put in. An amalgam filling could be put in that would prevent further decay, but it would have to be put

in under more aseptic conditions than is possible to obtain by the use of a napkin.

Will Dr. Calkins please answer this question—yes or no.

Do you consider fillings containing decay under them, successful fillings?

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There was a Jay in our Town  
Whose molar tooth  
Was broken down.  
A dentist bold  
So he was told,  
Could fix it up with putty.

He went away,  
This bloomin' Jay  
And thought his nerve would sleep.  
It gave a growl  
And then a howl  
And knocked him off his feet.

"What pain," he cried, "within that tooth;  
I'll hike to Washington, forsooth,  
Where Doctor Bowles with gentle skill  
That molar nerve will surely kill!"

The nerve is dead,  
May it rest in peace,  
A boon to comfort,  
To pain surcease.  
The Jay cried out in sheer delight,  
"What a bonehead I've been to suffer at night  
If I'd taken advice from old Doc Pyle,  
I wouldn't have suffered all this while!"

"'Tis over now and slick as grease  
So to hell with Spain  
Peace, perfect Peace!"

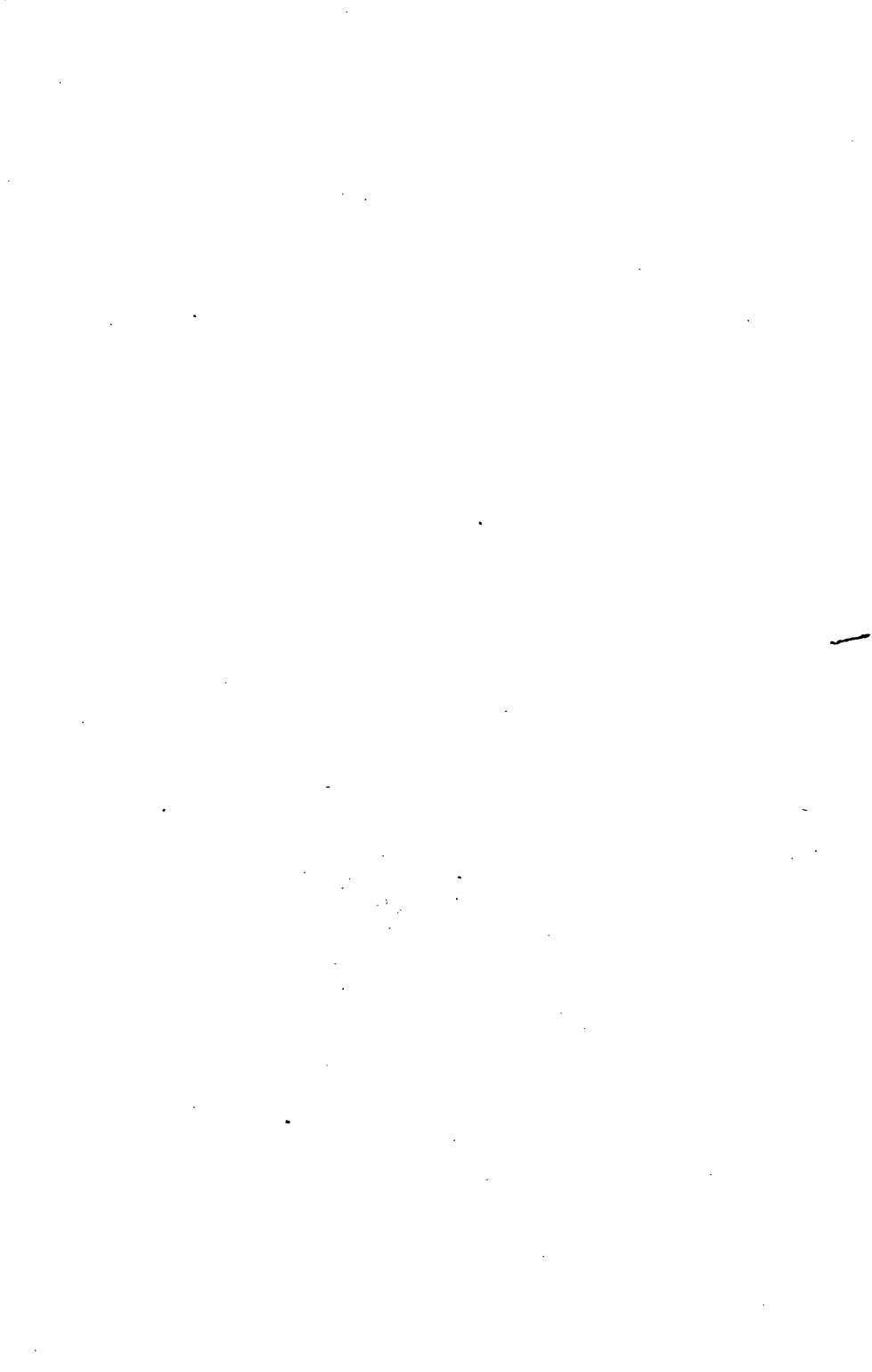
CLARENCE E. PYLE, D. D. S.,  
Philadelphia, Pa.



# WHO'S WHO AND WHY.



CONGRESSMAN AKIN, D. D. S.



The dental profession has as its congressional representative Dr Theron Akin, a dentist, of New York.

While Dentist Akin has been busy with his practice he has not been entirely asleep regarding political situations and he quietly got busy and landed a dignified national position.

We are indebted to the *Saturday Evening Post* of February 4, 1911, for additional information on this election of Dr. Theron Akin, as follows:

The twenty-fifth New York district comprises the counties of Fulton, Hamilton, Montgomery, Saratoga and Warren, and Lucius N. Littauer, the big glove manufacturer, has been the Republican boss up there for years. Littauer was in Congress himself for a good many years, but at the end of the Fifty-ninth Congress he quit and turned the job over to Cy Durey, former postmaster at Johnstown and one of Littauer's strongest supporters. The district was, apparently, solid Republican. Durey was elected in 1908 by more than seven thousand majority. Durey voted for the Payne-Aldrich tariff and Littauer was one of the foremost supporters of the law. They were all standpatters.

#### THE LEMON IN THE DINNER-PAIL.

Akin had some tariff ideas. He was sure that the Republican majority in Congress had betrayed the party pledges, so far as the tariff was concerned, and that there had been no revision downward, and he spoke his mind about it. John K. Stewart, the state committeeman for the district, took Akin aside and told him not to be foolish. "Why, Doc," said John K., "there isn't a chance for you. You are not on the slate. We are going to send Cy Durey back. You don't want to be an Insurgent, do you?"

Akin thought he did want to be an Insurgent. He asked John K. where he got off as the boss of the Republican party in the Twenty-fifth district, and desired to know who constituted him as the Republican party to dictate nominations. John K. laughed, and so did Littauer and Cy Durey and all the old crowd. They went ahead with their convention and renominated Cy unanimously, and spoke a few heartfelt words of admiration for the Payne-Aldrich tariff.

Right then and there Doc Akin developed from a near-Insurgent into New York's only real one, so far as results go. He circulated a petition and in two days had names enough to place him on the

ticket as an independent candidate. Then the Democrats being much in the minority, added to the joyousness of the occasion by indorsing Akin, and so did the Independence League. Lou MacWethy, who runs the *St. Johnsville Enterprise*, came out for Akin, and his was the only Republican newspaper in the district that did come out for him. All the rest of the editors allowed the Doc was a joke.

However, that opinion didn't last very long. Akin is a practicing dentist in Amsterdam, but lives nearby in the village of Akin, named for himself, and is president of that flourishing municipality. He got out his automobile, a one-lunger, and canvassed the district from end to end.

Akin owns a big farm in Iowa and has a fine home at the village named after himself. He is a rugged, outspoken, energetic man, with a big square chin, a firm mouth and a twinkling eye. He believes in about all the progressive Republican ideas of government, including real tariff revision, the valuation of railroads at their cost, election of Senators by the direct vote of the people, and all that.

He is set in his ways, is the Doc. Usually he goes back and forth from home to office in a small, one-cylindereed automobile. One day he was plugging along at about thirty-five miles an hour, which he thinks is fast enough for any one. He was annoyed by the honking of the horn on a big machine behind him containing a man who wanted to pass. Akin thought he was going as fast as anybody should want to go, but the man behind didn't, and he jumped by and gave Akin his dust all the way home.

"Now," said the Doc, "I am not a sport or a speed maniac, but that dust sort of stuck in my throat." So some days later he went to New York and bought a long, lean automobile that had just two speeds—high and higher. On the following Sunday he went out and lay for his friend who had passed him, turned on all the speed there was and ran rings around the other car all the way home. Then he put the big automobile in the barn and went back to his one-cylindereed machine.

In the next Congress he will be the only Insurgent Republican from New York state, unless some of those few saved from the wreck change presently, and he is no joke. That seems to be settled.

Do not fail to watch the *AMERICAN DENTAL JOURNAL*, as Dr. Akin will in the near future have a few pages in it that will be full of interest to the entire profession.

# JOURNALISTIC GEMS.

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[A contribution to the Symptomatology of Nocturnal Urinary Incontinence in Children. Unpublished poem by Mr. Eugene Field, read before the Chicago Press Club.]

## WHEN WILLIE WET THE BED.

When Willie was a little boy,  
Not more than five or six,  
Right constantly he did annoy  
His mother with his tricks;

Yet not a picayune cared I  
For what he did or said,  
Unless, as happened frequently,  
The rascal wet the bed.

Closely cuddled up to me  
And put his hands in mine,  
'Till all at once I seemed to be  
Afloat in seas of brine.

Sabean odors clogged the air  
And filled my soul with dread,  
Yet I could only grin and bear  
When Willie wet the bed.

'Tis many times the rascal has  
Soaked all the bedclothes thro',  
Whereat I'd feebly light the gas  
And wonder what to do.

Yet there he lay, so peaceful-like—  
God bless his curly head—  
I quite forgave the little tyke  
For wetting of the bed.

Ah, me! those happy days have flown;  
My boy's a father, too,  
And little Willies of his own  
Do what he used to do.

And I, ah! all that's left for me  
Is dreams of pleasures fled;  
Our boys ain't what they used to be  
When Willie wet the bed.

Had I my choice, no stately dame  
Should share my bed with me,  
No amorous jade of tarnished fame,  
Nor wench of high degree.

But I would choose, and choose again,  
The little curly head,  
Who cuddled close beside me when  
He used to wet the bed.

[Field said his wife took the boy away on a visit, and he found in their absence he could not sleep until he got up and poured hot water on his shirt.]

The above was printed in a medical journal some twelve or fifteen years ago.—*O. G. C.*

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### MODELING COMPOUND IMPRESSIONS.

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BY DAYTON DUNBAR CAMPBELL, D. D. S., KANSAS CITY, MO.

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To the practical painstaking prothodontist, there is but one other step in the procedure of making a full upper and lower denture that demands as much attention to detail as that of taking the impressions. A correct anatomical articulation plays an equally important part.

The charlatan or quack, with his questionable hurry-up methods, learns at once to make haste slowly when he is securing his impressions, and I dare say if all of his work tallied with his impression making, he would more wholesomely fill his niche in our profession.

Modeling compound as an impression material for edentulous mouths has given me such entire satisfaction in the past four or five years that I now avail myself of this opportunity to give a method of manipulation for your consideration.

Doctors Allport and Hunt wrote articles about methods similar

to the one I am about to describe several years before your essayist pleased his fond parents with "tooth-ie" No. 1 in the progress of deciduous dentition.

While I have never taken the course given by Dr. Green, I am grateful to him for many of the valuable little points that I have received from time to time from his oft-repeated, rapid-fire conversation.

Modeling compound is to be used in the method described in edentulous mouths only, except in rare instances that I shall not attempt to discuss in this paper. I do not advocate the use of modeling compound for impressions in bridge work where the exact relation of crown to crown is required and where an altogether different problem presents itself than the edentulous mouth.

Because I practice and teach prosthodontia with more real religious enthusiasm than any other branch of dentistry, and my confreres know that I delight in solving prosthetic difficulties, I get more supposedly hard cases than the general practitioner, and in every instance where the patient has exhibited difficulty in using an artificial denture, whether the case is to be made over completely or simply reset, I invariably use the compound, for, by this method you can see each step as the work proceeds, try the impression for perfect adaptation, and know that it will be as good in the finished plate.

This one salient feature is the most distinct advantage over plaster of paris.

With plaster of paris, the co-efficient of expansion varies with each make, mix, and mixer, and while this point is hardly worthy of consideration it could be rounded out by one technically inclined, so as to give modeling compound; which neither shrinks nor expands, first place as an impression material.

With modeling compound you can get impressions of muscles that might cause faulty adaptation, where, with plaster of paris, there is no evidence in the impression that such muscles exist.

It might be well at this point to state that there is but one compound on the market that answers all the purposes of the exacting dentist, and it is to my mind all the name implies—Perfection. It can be obtained either in cake or stick form, it softens readily, and hardens quickly, but in the hands of the careless student or the dentist who insists on boiling his compound, it is worse than useless. I use the stick form with dry heat, but where you have occasion to use the cake you will find that it works best in water heated to about

138 degrees Fahrenheit. This temperature, when obtained, is easily maintained if two or more quarts of water be used in a bucket instead of a shallow pan. The fact that it can be used but once with any degree of satisfaction is a valuable characteristic.

One of the most difficult upper dentures we make is for that type of mouths where the ramifications of the buccinator muscles are attached low on the ridge. These little muscles, of course, should be dissected back fearlessly where the patient will permit, and the trouble in this way easily surmounted, but in the cases where our patient will not submit to this trifling operation the following method gives happy results.

Soften two cakes of modeling compound in water, with a portion of one cake and a common impression tray take a very ordinary impression; cool this in cold water and while it is still wet fill the impression with the remaining soft compound, and invert the tray on some flat surface, pressing the tray down with the thumbs and molding the compound into position with the fingers of either hand. This is now cooled in water and very easily removed from the impression.

We now have a modeling compound model of the mouth that answers all the purposes of a metal die over which to swedge the tray.

From a piece of sheet tin, that ranges anywhere from one to two millimeters in thickness, cut out a piece in such shape that it will be easily adapted to the model, the same as you would a piece of aluminum or gold, place this in your swedger and swedge to the place—remove and trim off the excess tin, cutting the posterior portion well up on the palatal surface or heel, leaving it high over the cuspid eminence, and very low just posterior to this point. Now cut and lap the tin in the median line in front, to facilitate swedging. The blank is now placed in the swedger and given a final swedging.

It is gratifying to occasionally see one of these impression trays stay in position better than the plate the patient is trying to wear.

This, you may think, takes too much time, and so it does, if you attempt to use some one of the patent paraffine soap or shot swedgers that are now on the market or buried in some corner of your laboratory.

I use a homely little putty swedger, and a big sixteen-pound, short-handled hammer, and get the best results by placing a little putty in the bottom of the bowl of the swedger, so that if my composition model is not perfectly smooth it finds an accommodating seat;



over the tin and model is placed a piece of thin cloth or several layers of bibulous paper; fill this up with putty and place the plunger into position. One good heavy blow with this hammer is sufficient and vastly better than several light ones.

After you have accumulated a dozen or more of these trays you will find that you seldom have to make one outright, but can use some of the old ones. Keep your old modeling compound models and some day when you have a broken appointment and you are "work brittle," utilize the spare time in partially swedging up a few trays for future use.

With a dish of cold water, a small gas flame or alcohol lamp and a chip blower convenient, seat your patient in a low chair, heat a stick of modeling compound, and smear a thin, comparatively even, coat over the whole inner surface of the individual tray. Now dip the tray in the dish of cold water and wipe dry—this is done so that when the impression material is heated again the heat will be evenly distributed over the entire surface and will therefore not bear with unequal pressure on any one point.

The tray is now held, with the thumb on the labial aspect, the middle finger on the palatal portion and the fore-finger against the buccal border; the tray is now inverted and passed over the flame quickly from point to point, and the parts that cannot be reached in this manner are heated with a pointed flame from the chip blower.

Now hold the tray close to your cheek for a moment, and in this way you can ascertain if the compound is too hot or too cold, besides your patient sees that you have some regard for his comfort.

Place the tray in the mouth, and press up gently but firmly with a trembling motion of the hand, remove and dip in the cold water as before. Dry and place on more compound where it is needed—this is repeated as often as is necessary, building up the borders of the tray until they begin to take on a rounded surface. The posterior portion is now built back beyond the edge of the tray, and pressed up against the roof of the mouth with the index finger; care must be used in the subsequent heating or this part of the impression will drop down on account of lack of support.

This part of the impression is now heated and the patient instructed to press the tongue against the roof of the mouth. This secures a perfectly valve-tight fit along the posterior border of the impression, and plate, at a point where we are wont to add to our

plaster impressions or scrape the models. The impression should now begin to manifest a disposition to stick, and at this point the patient should be made to understand what is required of him to perfect the impression, and instructions given about laughing, sneezing, coughing, swallowing, and the many facial contortions that have a tendency to dislodge a plate, and especially the one that made the former denture intolerable.

The border of the impression is again heated and placed quickly in the mouth, and if the patient follows instructions the little muscles will cut through the compound and make a small groove to accommodate their action. Occasionally you will have a patient from whom you cannot get so much as a sickly grin—in this instance catch hold of the lips and cheek and pull them in the direction you think they should go.

When the border of the impression thickens, trim it until it is sharp again, heat and try it again; repeat this until the plate cannot be displaced, or at least with difficulty.

Now warm the edge or border of the impression all around, and when the impression is in position, press the lips and cheeks on either side with the forefingers firmly, and hold for a few seconds.

In taking the lower impression, the same fundamental principles are followed.

After securing the impression, beeswax can be mounted on it and the bite taken at this time. Where the lip is not too short, and the natural lower teeth retained, the teeth can be set up on the impression, articulated in the mouth and finished, using but one, or at the most two mixes of plaster.

The plan of taking an impression in modeling compound, and using this as a tray for plaster, is decidedly better than to proceed at once with the empty tray. This gives you a better plaster impression, but one that cannot be compared favorably with the impression just described.

I have reversed this procedure in one or two instances (one case in particular where the two superior maxilla and palatal bones were totally destroyed by phosphorous necrosis) by taking the impression first in plaster, then drying it out well, coating this over with a thin layer of the compound and in this way obtaining the beautiful results I had hoped for.

If the patient has an old plate I dispense with the tray-making

and use the plate instead, using a great deal more care, however, in heating the compound, as the plate tray is not so good a conductor of heat as one made of metal.

To reset a plate where there is no occasion to change the articulation—trim the surface of the plate to be made new with sandpaper on a chuck. I prefer sandpaper because a bur, knife or scraper leaves a glazed surface and does not unite so kindly with the new rubber. Take the impression exactly as I have described in this paper, fill in the little faulty places between the compound and plate with wax, and invest. To separate, place in boiling water for about two minutes, then remove and let set two or three minutes more. The flask is then easily separated and the modeling compound removed and wiped out of the plate with a cloth dipped in chloroform. The case is packed with ordinary rubber. This, to my mind, is better than using a plate paste, because the life is not cut out of the rubber with chemicals to make it plastic. When vulcanized it is not porous like the plate paste.—*Western Dental Journal*.

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#### THE DESTRUCTION OF TEETH BY MILK GERMS.

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BY F. J. BENNETT, M. R. C. S., L. D. S.

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(*The British Journal of Dental Science*, London, Dec. 1st, 1910.)

When we consider the widespread use of milk as an article of diet and when we remember the extreme susceptibility of milk to undergo chemical change, that it contains a carbohydrate which is readily converted into lactic acid, one is surprised at the small amount of consideration which has been given to the direct action of milk upon the teeth. It is true that frequent allusion has been made to disorders of digestion in infancy, brought about by impure and contaminated milk, but, as far as I am aware, next to nothing has been written on the direct action of milk on the teeth themselves. Probably the neglect of the subject of milk, as an agent in the production of dental caries, is best explained by the fact that all the microscopical appearances of caries can be produced, artificially, by the action of foods other than milk. This would therefore seem to exclude the necessity of a consideration of milk, for if bread, sugar, and saliva are sufficient to produce caries, what need to extend the inquiry? But

the saliva is contaminated with germs, and whence come those germs?

It is a fact not to be overlooked, that the period of life when dental caries is most prevalent coincides with that when milk in its various forms is most largely consumed—say during the first ten years of life. It also seemed to me that there was some reason for thinking that in certain febrile conditions, during which milk alone had been the diet, teeth, which had hitherto been free from caries, had been attacked in a rapid and unusual manner. I therefore set about testing the matter by direct experiment. For this purpose I considered the following questions should be answered:

(1.) Could milk, under favorable conditions, produce any or all the appearances of dental caries?

(2.) Could the milk exist under such conditions in the mouth?

In order to answer the first question, I obtained some sound teeth, and, having broken them into fragments, they were placed in glass-covered pots and covered with from 50cc. to 100cc. of ordinary cow's milk, and left in an incubator kept at uniform temperature of 35 deg. C. At various intervals the milk was changed—in some cases daily, in others after two or more days, up to a week. In all these cases the milk became curdled and an acid reaction to litmus was found after a few hours, becoming strongly marked in two or three days and ultimately intense, after which an alkaline reaction set in and with a characteristic putrescent smell. In these cases there was no admixture of saliva or other ingredients except that of milk.

The specimens, on examination, showed a gradual softening and flexibility of the denture, with patches of white opacity in the enamel. After a varying period, according to size, the denture became sufficiently soft to be cut into sections on the microtome. These were obtained by Gram's method and mounted for observation. I may here say that I find the earliest visible change in the enamel in these specimens, as also in others decalcified in bread and saliva, is not that of an opaque white spot, but whilst still translucent there is a ribbed and wavy pattern on the enamel not unlike the marking of the skin seen in finger-prints. This due to the enamel prisms being seen in relief, and it is not until later, when more isolated, that the air surrounding the prisms so disturbs the light as to produce opacity. I think you will see by these specimens that the patches of opacity in the enamel do not differ in any essential feature from teeth decalcified in bread and saliva, or even in a weak mineral acid.

I will now show you some slides illustrating the result on the dentine of the fermented milk, as revealed by the microscope, but before doing so, I will show you two or three slides of natural caries for comparison, and also one or two specimens of artificial caries produced in the usual manner by the action of bread and saliva. The first slides illustrate the action of the acid milk on the dentine, and you will see the bacteria have penetrated the dentinal tubes in various places, chiefly occupying the surface area, and there are also considerable portions of the decalcified dentine in which no germs are seen. Under a higher magnification the dental tubes are seen occupied by micrococci, sometimes three or four being crowded together in the width of the tubes. Some of the slides also show the entrance of bacteria from the pulp surface, and where there are portions of the pulp *in situ*, bacilli are here and there seen passing some distance into the neighboring dentine. Another slide shows a section of the decalcified dentine, in which no germs are to be seen. This may be due to some defect in the cultivation of the germs in this particular specimen, but I think not; indeed, I believe it really throws light on the nature of the process which goes on, both in these specimens of milk caries and also in those of natural caries itself, for if the whole of this specimen has been decalcified by the milk, which has been converted into an acid by means of germs, and yet no germs are present in the specimen, then it is evident there must be two separate actions going on—one due to the specimen being in a bath of lactic acid, acting in the same way as a dilute mineral acid would do, and a second process due to the direct action of the germs when they come to occupy the dentinal tubes. In this particular specimen the second process is absent. I think these two actions, acting with different intensities, will help to explain the variations, both in the rapidity and the appearances of natural caries, which we meet with in practice.

In returning to these experiments and considering the appearances in reference to those recognized as present in natural caries, one must remember that in the milk specimens, the change has been brought about only by the acid milk and by the organisms of milk. In natural caries one has always to consider that unknown factor, the action of the saliva, as to what extent it favors or retards the action of the caries germs, and to what extent the liquefaction or digestion of the dental cartilage is due to the saliva or to the mouth organisms which it contains, and it has been my object to avoid introducing this

factor of the saliva into the experiments, in order to simplify the problem by reducing the active agents to the smallest number.

It is therefore no matter of surprise, that some of the appearances of natural caries —namely, the complete liquefaction of the dentine—are absent in my specimens. In other respects, I am bound to say I find very little difference in the microscopical appearance of these milk specimens and those of natural caries. But I need not here remind you that it is one thing to find germs in a tissue, and another thing to cultivate them and learn their habits and species.

There are several varieties of the lactic-acid bacillus which grow in the milk, and at least one form is found in the human mouth. Milk as used for household purposes is often acid to litmus paper, and one can readily believe that milk germs are conveyed to the mouth in ordinary milk, the oral cavity acts as an incubator, and therefore all the factors for the complete acid fermentation of milk may be present. But is there any reason to suppose the conditions in the mouth sufficiently resemble those mentioned in my experiments to make it probable that milk is really an important factor in producing dental caries?

In the first place, provided the milk is not curdled, we are dealing with a fluid and not with a solid substance, and which, therefore, is less liable to be lodged between the teeth than is bread; although a mixture of bread and milk would find a ready lodgment. Milk mixes with the saliva, and would thus cling to any spot where viscid saliva lodges. Nevertheless it is not easy to find traces in the mouth of milk after it has been taken, provided it be fresh milk. But, by experiment, with glass tubes of capillary dimensions, I have proved that fragments of the skim of boiled milk can be retained in the mouth for ten hours, and still show an acid reaction to litmus paper. When the glass tube is shaped into a minute cup, with a small opening, into which is poured ordinary fresh milk, it will be retained in the mouth in spite of the movement of the muscles and action of the saliva, and will remain acid for eight hours or more. Under ordinary circumstances, as Professor Paulo has shown, milk appears, in dogs, to excite a copious flow of saliva, which flushes away the milk, but I am not satisfied that this takes place in man.

On the whole it is not difficult to imagine that milk, taken as it often is three or four times daily, does at times lodge in the mouth, especially in mouths which are not frequently cleansed or where the milk has turned sour.

But the mention of this word reminds me of the extensive use of sour milk as a form of diet, and of its possible result on the teeth, and also suggests an inquiry into the habits employed in preparing the milk used by the peasants in Eastern Europe, though amongst these people it is a *vinous* fermentation which is encouraged at the expense of the lactic acid. But all these topics must be left for further investigation.

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## ANNOUNCEMENTS

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### AMERICAN MILLER MEMORIAL.

COLUMBUS, OHIO, March 25, 1911.

*To the Dental Profession of America:*

The Committee appointed at the December, 1909 meeting of the Ohio State Dental Society, for the purpose of raising funds for an American Memorial to perpetuate the memory of the late Dr. Willoughby D. Miller, desires to make the following report.

Honorary Committees have been appointed in the several states, to solicit contributions by which their state may be represented in the fund. It is due to their hearty co-operation that the following report points to a successful issue of this undertaking, to express the appreciation of American dentists for the work of Dr. Miller. The amounts asked for from the several states is prorated according to the membership of the state societies; in some instances these amounts have been partial, while in others they have been slightly over subscribed. The committee deem it inadvisable to take steps toward the construction of this memorial until the fund, which will approximate \$8,000, is fully subscribed and in the hope this condition will be brought about by Fall.

The following subscriptions are now in the hands of the treasurer, Dr. Weston A. Price, of Cleveland, Ohio. Individual subscriptions, while included in the following, will appear in the name of the donor in our final report in the journals:

Alabama State Dental Society.....	\$ 25.00
Arkansas State Dental Society.....	50.00

San Francisco Dental Society.....	20.00
Sacramento Co. Dental Society.....	10.00
Colorado Odontological of Colorado Springs.....	25.00
Conn. State Dental Ass'n.....	50.00
Georgia Personal Sub's and State Dental Society.	35.00
Illinois State Society.....	150.00
Illinois Component Societies.....	216.00
Illinois Personal Subscriptions.....	165.00
Indiana State Dental Society.....	50.00
Eastern Indiana Dental Society.....	25.00
Iowa State Dental Society.....	200.00
Kansas Personal and State Society.....	134.50
Kentucky State Local and Personal.....	105.00
Mont. State Dental Society.....	15.00
Nebraska Personal and State Society.....	100.00
New Hampshire State Dental Society.....	25.00
New York Odontological.....	25.00
New York Institute of Stomatology.....	50.00
South Carolina State Dental Society.....	25.00
North Dakota State Dental Society.....	50.00
South Dakota State Dental Society.....	15.00
Oregon S. D. S.....	50.00
Penn S. D. S.....	200.00
Lebanon Valley D. S., Pa.....	10.00
Tenn. S. D. S.....	50.00
Texas S. D. S.....	50.00
Utah Salt Lake City Aux. Delta Sigma Delta.....	14.00
Ohio State Dental Society.....	1,000.00
Cincinnati Odontographic .....	100.00
Columbus Dent. So.....	100.00
Northern Ohio D. S.....	200.00
Va. State Dental Society.....	50.00
W. Va. State Dental Society.....	25.00
Washington State Dental Society.....	50.00
Wyoming State Dental Society.....	10.00
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Total .....	\$3,494.50
California State Dental Society.....	10.00
Alameda Co., Cal. Dental Society.....	10.00



Expenses of our committee, including printing, stationery, postage and stenographic work to date amounting to \$79.90, has been taken care of by the Ohio State Dental Society.

In addition to the above the state societies of Massachusetts and Missouri have each subscribed \$100, and Mississippi \$50, while several other states have subscribed amounts not definitely reported at this date. Personal subscriptions from Columbus dentists will approximate \$500.

Other professions have established memorials to their distinguished dead; dentistry has done it before, and we appeal to your spirit of loyalty and patriotism to aid in honoring this American whose life was one of untiring devotion to the scientific advancement of our profession.

Yours very truly,  
EDWARD C. MILLS, *Chairman*,  
16 South Third St., Columbus, Ohio.  
J. R. CALLAHAN,  
25 Garfield Place, Cincinnati, Ohio.  
S. D. RUGGLES,  
Portsmouth, Ohio.

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#### THE PUBLIC DENTAL EDUCATION COMMITTEE OF ILLINOIS.

The committee of Public Education has been swamped with inquiries concerning and requests for lectures to the public in various parts of the State. The interest has been intensified by reason of the great wave that is deluging the country in matters of hygiene and the manifest eagerness on the part of the public to know more about it.

The committee has not been in a position to satisfy all the demands made upon it up to the present for the reason, first, it was not organized; second, its lecturers were not ready upon short notice to give the talks necessary to the demands made; third, the societies or communities themselves vaguely knew what they wanted.

Amid the din of this confusion, however, the committee has brought some order out of chaos and is now in a position to go ahead with some degree of system and order. It is glad to announce that, first, it is organized; second, its corps of lecturers has been created; third, it proposes to carry on a campaign of education that the people

may have a definite idea as to what they need. The corps of lecturers is as follows: C. N. Johnson, F. B. Noyes, Jno. P. Buckley, W. H. G. Logan, D. M. Gallie, B. J. Cigrand, A. D. Black, and Geo. Cook.

In asking for any one of these gentlemen it must not be taken for granted that he can come for the asking because he happens to be a favorite in any community. These men give their services and time for the good of the cause without compensation—save the bare expense of travel and hotel fare—and unusual demand may be made upon the time of one or two which is not fair. However, whenever such a demand is made, the chairman of the committee will use his best offices to supply that demand in the gentleman selected. In any event, the demand will be supplied. The committee suggests that district societies and local societies in the larger towns utilize these lecturers to carry on the campaign. After this lecture has been given these societies can further keep up the agitation by members of their own group, selected by them for that purpose. We can thus realize upon our efforts in a logical and systematic way, and good to the community and profession alike will be the result.

Applications for these lecturers or any information regarding the campaign may be had of the chairman of the committee.

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C. E. BENTLEY, 100 State St., Chicago.

NOTE: The editor of THE AMERICAN DENTAL JOURNAL devoted twenty full days to this lecture service.

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#### **SOUTH DAKOTA BOARD OF DENTAL EXAMINERS.**

The South Dakota State Board of Dental Examiners will hold its next meeting at Sioux Falls, S. D., Tuesday, July 11th, 1911, at 1:30 P. M., and continuing three days. All applications for examination, together with a fee of twenty-five dollars, must be in the hands of the secretary by July 1st. Applicants who have not complied with the above will not be permitted to take the examination.

For further information, blanks, etc., address Aris L. Revell, Sec., Lead, So. Dak.

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#### **IOWA STATE BOARD OF DENTAL EXAMINERS.**

The Iowa State Board of Dental Examiners will hold a meeting for the examination of candidates for license to practice dentistry

in Iowa, beginning at 9:00 A. M. June 5, 1911, at Iowa City. For blanks and other information write Dr. J. A. West, Secretary, 417 Utica Bldg., Des Moines, Iowa.

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#### **THE MICHIGAN STATE BOARD OF DENTAL EXAMINERS.**

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The next regular meeting of the Michigan State Board of Dental Examiners will be held at the dental college building at Ann Arbor during the whole of the week of June 19, beginning on Monday at 8:00 A. M. All applications and fees should be in the hands of the secretary at least ten days before that date. For full information address A. W. Haidle, Sec., Negaunee, Mich.

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#### **ILLINOIS STATE BOARD OF DENTAL EXAMINERS.**

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The semi-annual meeting of the Illinois State Board of Dental Examiners for the examination of applicants for a license to practice dentistry in the State of Illinois will be held at the Chicago College of Dental Surgery, corner Harrison and Wood streets, Chicago, beginning Monday, June 5th, 1911, at 9 A. M. "The following preliminary qualifications shall be required of candidates to entitle them to examination by this board for a license to practice dentistry in the State of Illinois: Graduates of a reputable dental or medical school or college, or dental department of a reputable university, who enter the school or college as freshmen on or after the school year 1906-7, must have a minimum preliminary education of not less than graduation from an accredited high school or a certificate from the State Superintendent of Public Instruction, equivalent officer or deputy, acting within his proper or legal jurisdiction, showing that the applicant had an education equal to that obtained in an accredited high school; which certificate shall be accepted in lieu of a high school diploma." Candidates will be furnished with proper blanks and such other information as is necessary, on application to the secretary. All applications must be filed with the secretary five (5) days prior to date of examination. The examination fee is twenty dollars (\$20) with an additional fee of five dollars (\$5) for a license. Address all communications to T. A. Broadbent, secretary, 705 Venetian building.

**NATIONAL DENTAL ASSOCIATION CLINICS.**

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The Clinic Programme for the meeting at Cleveland promises to be an unusually interesting and profitable one. Every effort is being put forth to secure the very best talent as clinicians in the profession.

It is our intention to make this clinic the most interesting and profitable one in the history of the National Association. We have at this early date (March 1st) secured men of national reputations to clinic on the following subjects: Oral Surgery, Prophylaxis, Orthodontia. We hope to arrange a Concerted Gold Filling Clinic in cavities in pearl matrices (by 10 operators) under the direction of Dr. Southwell of Milwaukee; Progressive Gold and Porcelain Clinics; Gold Inlays and many other demonstrations. Canada and Europe will be represented and we are making great efforts to have every state present their best clinicians. We solicit clinics from any member of State or District Society and a most cordial invitation extended to our Canadian brethren.

Send in your names at once with title of Clinic to any member of the committee, that we can have the programme published in the Journals, June issue.

D. O. M. LE CRON, *Chairman*,

501 Missouri Trust Bldg.

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**ILLINOIS STATE DENTAL SOCIETY.**

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The forty-seventh annual meeting of the Illinois State Dental

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Society will be held at Peoria, May 9, 10, 11, 12, 1911.

J. F. F. WALTZ, *Secretary*,

J. P. LUTHRINGER, *Chairman*,

Decatur.

Local Arrangements Committee,

Peoria.

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**ALUMNI ASSOCIATION OF WASHINGTON UNIVERSITY.**

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A reunion and clinic of all graduates will be held under the auspices of the Alumni Association of Washington University Dental School, April 10th and 11th, at the college building, 29th and Locust streets.

An unusually interesting programme is in preparation and the meeting promises to be the best in the history of the the school.

All graduates should mark the dates in their Appointment books and make a special effort to attend. They will be well repaid for the time spent. All ethical dentists are invited to attend.

ROBERT A. HARRIS,

E. A. WOLK,

W. H. SCOTT,

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*Publicity Committee.*

#### KENTUCKY STATE DENTAL ASSOCIATION.

The forty-second annual meeting of the Kentucky State Dental Association will be held at Owensboro, May 23rd, 24th and 25th, 1911. This will be the last State Dental Society to hold its annual meeting in accordance with the circuit established between Iowa, Illinois, Indiana and Kentucky, hence we expect to have an unusually large exhibit, as well as a good programme. All members of the profession are cordially invited.

W. M. RANDALL, *Secretary*,

Corner Brook and Broadway, Louisville, Ky.

#### MINNESOTA STATE DENTAL ASSOCIATION.

The twenty-eighth annual meeting of the Minnesota State Dental Association will convene in Masonic Temple, Minneapolis, June 9-10, 1911.

A number of clinicians in addition to home talent will be present, and a manufacturers' exhibit is also being arranged.

The profession is cordially invited. Address inquiries or suggestions to

BENJAMIN SANDY, *Secretary*,

827 Andrus Bldg., Minneapolis, Minn.

#### NORTH DAKOTA DENTAL ASSOCIATION.

The sixth annual meeting of the North Dakota Dental Association will be held at Fargo, North Dakota, on May 16 and 17, 1911.

F. A. BRICKER, *Secretary*, Fargo, N. D.

#### NATIONAL DENTAL ASSOCIATION.

A complimentary dinner will be given by the members of the Southern Branch of the National Dental Association during its meeting in Atlanta, Ga., April 4, 5 and 6, to Dr. Frank Holland of Atlanta, Ga.

THOS. P. HINMAN, *Chairman*.

# EVERYBODY'S CORNER.

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**Dr. W. G. Burns**, a practicing dentist of Siloam Spring, Ark., died March 20th.

**Dr. Case**, an aged dentists of Maysville, Kentucky, died at his home March 12th.

**Dr. Geagnon**, a prominent dentist of Rockford, Ill., died March 24th. Death was due to cancer.

**Dr. O. L. Peterson**, a prominent dentist in Chicago, Ill., died March 28th after a short illness from pneumonia.

**Laughing Gas Proved Fatal.**—Mrs. George Mulock of Oxford Mo., died from the effects of nitrous oxide said to have been given her by a dentist.

**Dr. Blackshaw**, pioneer dentist of Urbana, Ill., died March 27th. The Doctor was 80 years old and has practiced dentistry in Urbana for fifty-three years.

**Grief Drives Dentist to Suicide.**—Dr. Joseph Betts, 72 years old, of Red Bank, N. J., committed suicide March 16th. Grief over the death of his wife is assigned as a cause.

**Dr. M. L. S. Buckner**, of Shelbyville, Kentucky, one of the oldest dental practitioners in the state of Kentucky, died March 10th of carcinoma. The doctor was 71 years of age and is survived by his wife and one son.

**Loving Cup for Dr. Morrow.**—A loving cup was presented to Dr. D. E. Morrow of St. Louis, Mo., by the members of the senior class of the Barnes Dental College, of which he is secretary. The occasion was his 53d birthday.

**Dr. Samuel S. Mummery**, a well known dentist of Big Rapids, Mich., died March 8th following an operation. The Doctor graduated from the University of Michigan in 1900 and was one of the best known young men in the city.

**Dr. Edward W. Branigan**, professor of operative dentistry in Tufts Dental School, Boston, Mass., for many years and one of the best known men in his profession in this country, died of heart failure March 23d. He is survived by one son, Dr. Edward Branigan of Groton.

**France Restricting Dentists.**—With a view to placing the dental profession on a higher plane, France has enacted more stringent requirements to pass before acquiring a license in that country. American dentists who are contemplating practicing in France will find the laws more difficult than hitherto. The American dentist has long reigned supreme in his profession in France, the high class work and operations being performed by Americans. As a result the high class French dentist deems a post graduate course in an American University quite essential.

**Dentist Bill Is Opposed.**—The bill about to be introduced in the State Legislature requiring all dentists to pay a tax of one dollar a year for the privilege of practicing their profession has received the endorsement of the St. Clair County Dental Society, Michigan. It is, however, meeting with opposition in certain quarters. It is said the object of the measure is to supply the dental board with funds to prosecute illegal practitioners. The claim is made that if the laws are violated the prosecution of violaters should be made a public and not a private charge against the dentists.

**Dr. Fuerstein Found Guilty**—Dr. George F. Fuerstein, a dentist of Columbus, Ohio, was found guilty of practising dentistry without a license.

**Files Suit Against Dentist.**—Claiming that while a tooth was being drawn out his jaw was broken and he was otherwise injured, James Battle has filed suit against Dr. J. C. Johnson of Birmingham, Ala., asking for \$5,000 damages.

**Commissions for Dental Surgeons.**—Under instructions from the war departments orders were issued March 18th giving the dental surgeons employed at the various posts, commissions as officers in the army. Dental Surgeons George D. Graham at Fort Shafter, Honolulu; Frank P. Stone, field hospital, San Diego; Harold O. Scott and Minot E. Scott will be those who will receive commissions in this department.

**Peoria Man's Invention.**—An invention that will prove a blessing to mankind has been devised by E. C. Lombard of Peoria, Ill. Mr. Lombard's invention is an electrical dental forceps that not only kills the nerve in the tooth without pain but makes the pulling of teeth an easy matter with very little exertion on the part of the operator. It is being placed in the hands of a dental supply company for manufacture.

**Wanted****For Sale****Exchange**

**NOTE:**—Advertisements in this Department not exceeding fifty words will be published free for three insertions for subscribers whose subscriptions have been paid for one year in advance.

Advertisements under regular heading from non-subscribers will be inserted for a charge of five cents per word. Remittance in full must accompany such copy.

Copy must be on file in our office by the 15th of the preceding month in which insertion is desired.

In answering these advertisements through the American Dental Journal, enclose your answer in stamped envelope with the advertiser's letters marked on the corner. **No unstamped letters will be forwarded.**

We are not responsible for any advertisement appearing in these columns.

**PUBLISHERS.**

**FOR SALE OR LEASE—Bargain.**

Ethical practice established seven years, excellent opening for man whose work and reputation will bear strictest investigation. Owner going abroad to live, indefinitely, Chicago, Southside location. Address "Dennis," care American Dental Journal, 39 State Street, Chicago, Ill.

**FOR SALE—Elgin Casting Appliance,** in good condition with gold traps under arms. Price \$15.00 complete. Address "Cast," care American Dental Journal, 39 State street, Chicago, Ill.

**WANTED—Clarke double bowl spittoon.** It must be in good shape and a good looker. State the least price in your letter. Address L. C. Patterson, Room 10, 1339 Oh. street, Lincoln, Nebr.

**FOR SALE—Somnoform outfit complete,** new rubber, \$7.50. Address Dr. M. A. Teeling, 1378 E. 55th Street, Chicago, Ill.

**FOR SALE—An attractive practice and outfit** in good South Dakota town. Change of business and climate desired. Address "C. H.," care S. S. White Dental Mfg. Co., Chicago, Ill.

**WANTED—Dental practices.** My method of finding buyers is successful. No publicity for you. Write for information. Unlocated dentists write for bargain sale lists. Mention states desired. The Dentists' Middleman, C. M. Cryor, D. D. S., Box M., Franklin Grove, Ill.

**FOR SALE—Good practice and outfit, cheap.** Selling on account ill health. New growing Montana town, railroad division, no opposition, fees big, 1,500 people, large Ransom and Randolph Inst. Case, late make Archer Chair, instruments, etc., complete, a snap, price \$250.00 cash. Address "Melstone," care American Dental Journal, 39 State Street, Chicago, Ill.

## Acute Inflammation

A patient applies for treatment with a jaw so swollen and painful that it is impossible to open the mouth sufficiently to make a proper examination, much less do any operating.

We are constantly receiving reports from dentists who have treated such cases with a thick hot dressing of Antiphlogistine, to find that in twenty-four to forty-eight hours the swelling and pain have so far disappeared as to allow of proper operative procedures.

But—"A stitch in time saves nine." Antiphlogistine used when the inflammation is beginning will prevent the serious condition pictured above.

THE DENVER CHEMICAL MFG. CO., New York



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